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CHAPTER VII(a)

THE EARLIEST SETTLEMENTS IN WESTERN ASIA

FROM THE NINTH TO THE END OF THE FIFTH MILLENNIUM B.C.

I. GEOGRAPHY, TERMINOLOGY AND CHRONOLOGY

THE scene of man's first emergence as a food-producer as opposed to the countless millennia of his existence as a food-gatherer during the Palaeolithic period, an event frequently alluded to as the 'neolithic revolution', was that part of south-west Asia which is usually described as the Near East, or in the terminology of some the Near and Middle East.

Even before the last glaciers had retreated from northern Europe, man in south-west Asia had embarked on a momentous course which was to lead slowly but inexorably to the development of civilization, a higher and more efficient form of living than had been practised during the long aeons of the Palaeolithic period. These changes towards the domestication of animals and plants, the conservation and eventually the production of food no doubt came slowly. They were not accomplished overnight, or due to a sudden discovery or the arrival of new ethnic elements bringing a higher culture from 'elsewhere'. On the contrary, they were the culmination of a process that had started long ago, we assume, with the appearance of modern man, *Homo sapiens*, at the beginning of the Upper Palaeolithic. Improved technical skills in the production of tools and weapons with which to catch and kill his quarry, the manufacture of clothing, nets and matting, the construction of tents and huts, a greater cohesion of hunting groups and the first rise of semi-permanent hunting-camps, all marked important steps forward, well in advance of his predecessor, Neanderthal man. In no single field were the changes more marked than in the field of religion; slowly art developed, first sculpture in the form of statuettes of a goddess of fecundity, next the arts of engraving and painting, to culminate in the unsurpassed cave paintings of

such sites as Lascaux, Altamira, Font de Gaume, Niaux, Pech Merle and a host of others. Upper Palaeolithic man in the later stages of the Ice Age is emerging as an individual, deeply religious, a craftsman and artist of no mean order, and a most successful hunter, but bound by his environment and utterly dependent on the food supplies available. Our knowledge of Upper Palaeolithic man is to a great extent derived from western Europe, where he left the most complete record, including the great cave sanctuaries of France and northern Spain, but there is a steadily increasing recognition that elsewhere also, as in Italy and Czechoslovakia, south Russia, the Urals and even Anatolia,¹ similar and artistically gifted hunting tribes were established. In the Near East, in general, the remains left by Upper Palaeolithic man are more modest, but it was here towards the end of the Glacial Period that he would take the next steps forward under the more favourable conditions which then prevailed.

As early as 9000 B.C. we find him established in open settlements, some seasonal, others perhaps already permanent, in round or oval huts with simple stone foundations. Zawi Chemi-Shanidar on the Great Zab river in north Iraq, 'Eynān ('Ain Mallaḥa) near the shores of Lake Hūleh in Israel, Jericho, and Beidha near Petra in Jordan are the best examples of such open settlements. Hunting was still the main occupation, but at Zawi Chemi there is abundant evidence for domestic sheep, the first animal to be domesticated.² Domestication of animals must have begun during the tenth millennium B.C., but the domestication of plants seems to have started somewhat later. Carbonized remains of domestic plants have not yet been found in any deposit of the ninth or eighth millennium B.C., but are firmly established by 7000 B.C. in three main areas of the Near East: at Hacilar in western Anatolia, at Beidha in Jordan, and at Ali-Kush in Khūzistān (Susiana).³ By this period a certain standardization in crops grown in each of these areas is notable and evidently the result of previous experimenting over an unknown period of time. From about 9000 B.C. onwards there are a number of indications of the importance attached to vegetable food;⁴ saddle querns and grinding stones unknown before, sickle blades with or without silica sheen, and storage pits all suggest the reaping and preparation of certain new foods, such as cereals (wheat and barley) or legumes (peas, lentils or bitter vetch). In

¹ §1, I, 78 f.

² §11, 3, 410.

³ Information received from Dr H. Helbaek.

⁴ §11, 5, 5,

the early stage these plants need not have been domesticated, or sown, and they could have been used in their wild form, but as time went on they were gradually selected, domesticated and sown, developing larger grain sizes and thus providing more and more food. With the domestication of grain, 'man's most precious artefact', a steady supply of food was assured, and bread (and beer) have dominated man's rise as a civilized human being ever since. It assured adequate food supplies, for the yield of the wheat (and barley) fields was enormous; populations could expand and, as grain could be stored, the surplus of food relieved part of the population to engage in pursuits other than food production. With the specialization of labour, part- or even full-time specialists arose, engaged in arts and crafts, trade, government and religion. Thus were laid the bases of civilized societies which were to develop into villages and towns, city states, kingdoms, and finally empires.

The domestication of crops and animals, then, was to have unforeseen results, but why was this development confined to Near Eastern societies? The answer is an obvious one: only in the Near East do we find that combination of domesticable animals¹ such as sheep, goat, cattle and pig with the wild ancestors of wheat and barley, bitter vetch, peas and lentils upon which the 'neolithic revolution' was based. Only in the natural habitat of these particular plants and animals was this accomplished, and it is therefore possible to define the limits fairly closely. In Egypt, for example, the wild ancestors of sheep and goat are not found, nor those of wheat and barley, which are medium-altitude plants (800-1000 m. above sea level), but cattle and pig were common, as in Europe and North Africa. These areas all fall outside the central area where the 'neolithic revolution' was accomplished. The same applies to the deserts of Syria and Arabia, the Mediterranean littoral, the alluvial plains of Mesopotamia and the jungles of the eastern Black Sea and the Caspian. The area can be narrowed down considerably by observing the habitat of the wild progenitors of the cereal grasses, wheat and barley, which ranged, respectively, from the Anatolian plateau to the deserts of central Asia and from the Caucasus range to the uplands of Palestine.

In this vast area we now can recognize three or perhaps four primary centres where the domestication of plants and animals was accomplished in the first few millennia after the Glacial period: Palestine and Lebanon (?), the Zagros mountain zone of Iraq and Iran, with a possible extension up to Transcaucasia, the

¹ §1, 3, 31 ff.

south Anatolian plateau, and perhaps the eastern Elburz (Kopet Dağ) and the northern slopes of the Hindu Kush mountains.¹ In short, the highland zones of the Near (and Middle) East turn out to be the areas in which these earliest developments occurred, and those in the lowland plains date from later periods, thus reversing the old theories that Mesopotamia and Egypt were the birthplaces of civilization. Developments in Europe likewise are purely secondary, even if they clearly precede similar patterns of development in Egypt, as radiocarbon dates have now conclusively shown for Bulgaria and Greece.

Now that series of radiocarbon dates, or determinations as the sceptics prefer to call them, are offering us a coherent pattern of absolute chronology, it seems advisable to drop and eliminate the century-old traditional system of terminology, devised for Western Europe, the usefulness of which has not stood the test of recent Near Eastern research. If we then discard the traditional sequence of Mesolithic, Neolithic and Bronze Age, which in the Near East had to be enlarged and modified into Mesolithic, Proto-neolithic, Pre-pottery neolithic, Pottery-neolithic, Chalcolithic and Bronze Age, each with various subdivisions, we see no reason either to adopt an equally cumbersome and no less theoretic scheme devised by Braidwood on the basis of supposedly successive economic patterns which recent excavations have shown to be equally unacceptable.

For the purpose of correlation with earlier literature² the following table may be useful; it illustrates the confusion in which Near Eastern terminology has been trapped. The terms in use for one country rarely correspond with those among its neighbours. In fact, they have lost all meaning. Early chalcolithic, for example, in Anatolia no longer means that copper was then first used beside stone, but really indicates the period in which painted pottery was first widely used!

10th millennium	Mesolithic or Final Palaeolithic. Zarzian, Kebaran, Belbaşı cultures.
9th and 8th millennia	Proto-neolithic or Mesolithic cultures. Karīm Shahr, Shanidar, Natufian and Beldibi cultures.
8th millennium	
In Palestine	Pre-pottery neolithic A.
In Anatolia	Aceramic Hacilar.
7th millennium	Palestinian Pre-pottery neolithic B, Pre-pottery Jarmo, and Pottery or early neolithic Çatal Hüyük.
6th millennium	Early neolithic Byblos, neolithic Hassūnah, Pottery-neolithic Jarmo, Late neolithic Hacilar and, after 5600 B.C., Early chalcolithic Hassūnah, Hacilar, Mersin, 'Amūq B, etc.

¹ §x, 2, 3.

² §1, 1, *passim*.

5th millennium	Middle chalcolithic Halaf, Mersin, 'Amūq C, Can Hasan, but Late chalcolithic Beycesultan and Pottery-neolithic Palestine.
4th millennium	Late chalcolithic 'Ubaid and Uruk, Late chalcolithic Anatolia, but chalcolithic Ghassulian, etc., in Palestine.

Instead, therefore, of using such terms as mesolithic, neolithic, chalcolithic, etc., we shall try to use names of cultures or significant building levels of key sites, but it must be pointed out that consistent use of this principle cannot always be maintained.

The carbon-14 dates used in this chapter are those calculated with the higher half-life of 5730 years, which is now considered to be the more accurate one. In the Near East most scholars are now using these higher dates, even if by convention the radio-carbon laboratories continue to publish their dates with the lower half-life. Whereas in prehistory it matters very little whether a settlement was built or destroyed *c.* 6800 rather than *c.* 7000 B.C., the higher dates have the advantage of agreeing more closely with dates calculated from the king-lists in Egypt or Mesopotamia during the historical period.

The present chapter, then, deals with the prehistoric cultures of the Near East from Syria and Lebanon and Anatolia in the west to southern Turkestan in the east during the period which spans the millennia between the end of the Ice Age in Europe and the beginning of the 'Ubaid period in Mesopotamia. In absolute chronology this is a period from *c.* 10,000 to 4300 B.C. Research in the various regions is necessarily unequal: many new finds here included are known only from preliminary reports or notices, and the present chapter is therefore a sort of interim report, liable to change in the next few years. In archaeology this cannot be avoided, and nothing is final, and it is as well to remember that the little we know about these early developments in the Near East is nothing in comparison with what remains to be learned.

Finally, it may not be superfluous to sound a note of caution. The archaeology of the Near East is in a state of constant flux; every year new discoveries are made that may disprove long-cherished theories or suggest important modifications. A generalized picture such as is presented here is, even with the best of intentions, a subjective one, for the days are gone when a single archaeologist could hope to be familiar with all the material from Anatolia to Central Asia. In the related field of history, it has recently been suggested that it is a good thing if a scholar sometimes devotes himself to a similar study in which he is not a specialist, for, unaware of the minutiae, he is able to generalize

Table 6. Prehistoric cultures of the Near East from c. 10,000 to 4300 B.C.

[illegible]

where no specialist would tread and thus offer new views and ideas, not necessarily correct but, it is hoped, stimulating to further research.

II. THE ZAGROS ZONE OF NORTHERN IRAQ

Whereas prehistoric research in Iraq had been conducted almost entirely in the plains up to the end of the Second World War, the last two decades have marked the beginning of systematic exploration and excavation in the foothills of the Zagros range of mountains which form the border between Iran and Iraq. In a series of expeditions under the auspices of the Oriental Institute of Chicago, R. J. Braidwood, L. S. Braidwood, and B. Howe led a team of archaeologists brought together for the first time with natural scientists in order to investigate the change from food-gathering to food-production in Iraqi Kurdistān. An unsuspectedly long and interesting series of early cultures was found, from the Upper Palaeolithic to the Hassūnah period of the sixth millennium. Independently, R. S. Solecki and R. L. Solecki explored the Upper Zab river just south of the Turkish frontier and carefully investigated the now famous cave of Shanidar near Barzan and discovered at Zawi Chemi-Shanidar the earliest post-Pleistocene village site known in Iraq. Danish expeditions, led by H. Ingholt, excavated the early site of Tell Shemshāra near the Dokan dam.

After the Iraqi revolution, Americans and Danes continued their explorations in Iranian Kurdistān, the former working in the plain of Kirmānshāh, the latter in Northern Luristān (Tepe Gūrān). In the last few years another American expedition from Rice University, led by F. Hole, continued this pattern with a highly successful investigation of the Deh Luran district in the foothills of Khūzistān (Iran) to the south; and in collaboration with Istanbul University the Chicago party have moved north to south-eastern Turkey, east of the Euphrates, a territory more closely linked to Iraq and Syria than to the Anatolian plateau above.

Zawi Chemi, Shanidar, Karīm Shahr, M'lefaat and Gird Chāi. Zawi Chemi, the earliest open village site yet found in north Iraq, lies about a hundred yards from the river in the mountain valley of the Great Zab at an altitude of 425 m.¹ The surrounding mountains rise to a height of 1800 m. The site itself extends 275 × 215 m. and the early deposits are 1–2 m. deep with large

¹ §11, 5, fig. 2; §11, 3, 405.

refuse pits at the bottom cut into the natural soil. Remains of rough walling indicate circular huts with diameter of *c.* 4 m., twice rebuilt. The walls are built of river boulders, whole or broken artefacts such as querns, grinding stones, mortars, etc. Fireplaces or other domestic arrangements have not been detected and the architecture is primitive. There is good evidence to suggest that the site was occupied for a long time, and changes are found to occur throughout the deposit, at least in the tool kit. Hunting was still the most important occupation, as is shown by the enormous deposits of bones;¹ in the lowest level Red Deer was the main quarry but there was also sheep. In the upper levels a domesticated sheep is found and wild goat was hunted. The sudden appearance of numbers of tools used in the preparation of plant food, such as U-shaped querns with mullers, V-shaped quern-mortars, bone sickle-hafts² (but no blades with a gloss along the edge), is significant. In the absence of any carbonized grains it is, however, impossible to say whether wild cereals were reaped, or other foods such as acorns, abundant in the area and still a source of food. Snails also seem to have formed part of the diet. Zawi Chemi was not yet an established agricultural village, but the preparation of vegetable food and the early appearance of domesticated sheep foreshadow the great economic revolution which was to come. A radiocarbon date of 9217 ± 300 from the lowest level of the village and another of 8935 ± 300 ³ from the contemporary B 1 layer of the cave of Shanidar, 4 km. away, place this culture roughly in the late tenth and early ninth millennia, approximately contemporary with the Natufian culture of Palestine.

The industries of Zawi Chemi (and Shanidar B 1) are a mixture of old and new techniques. The chipped flint industry (obsidian, imported from the Lake Vān area, is rare) is impoverished and probably derived from the Zarzian industry of Shanidar B 2.⁴ Artefacts are rare; microliths such as backed blades and lunates are characteristic, but not dominant.⁵ Among the larger tools are notched and serrated implements: borers, side scrapers, knives, angle-burins and crude core scrapers. New are the ground and pecked stone tools: querns, mortars, mullers, pounders, pestles, balls, hammer-stones, polishing stones, grooved steatite pieces, sometimes with incised decoration. Chipped celts with polished bits occur only at the end of the occupation of the site.

Pottery, figurines or any objects made of clay are still unknown,

¹ §11, 3, 409 f.

² §11, 3, pl. 1.

³ §11, 3, 405, 410.

⁴ §11, 3, 411.

⁵ §11, 5, fig. 8.

nor are there any spindle-whorls or loom-weights. Fragments of mats and baskets have been found. Bone tools are abundant: awls, flakers, chisels, knife- and sickle-handles in which blades were inserted and fixed with bitumen. Many of the bone tools bear geometric or even a few naturalistic ornaments. Luxury objects occur in small numbers, such as beads of bone, animal teeth, steatite, greenstone, native copper, limestone, marble (?), and small slate pendants bearing incised designs.¹

Shanidar Cave may represent the winter quarters of the seasonal community which spent the summer at Zawi Chemi, and it has also yielded a cemetery of this period with burials of twenty-six individuals, mainly infants and children.² A flexed burial of a young woman was accompanied by red ochre, a grinding-stone and a necklace of small beads; another burial was accompanied by a knife of flint, set in bitumen in a long handle made from a rib bone.³ Several small platforms of rough stones were found with the burials; one of them, arc-shaped, resembles the stone enclosure at Zawi Chemi. These alignments are suggestive of a funeral cult.

A few articles found in the settlement and cave suggest trade: obsidian from the Lake Vān area, bitumen from Kirkuk, native copper, perhaps from Ergani Maden north of Diyārbakr, where recent excavations at Çayönütepesi⁴ have revealed another pre-pottery village site. In an upper level houses were found with stone foundations, partly equipped with buttresses and orthostats. In a lower level were remains of parallel lines of stone and mud walls. Flint and obsidian tools, as well as ground stone objects, were found, and with them fragments and beads of malachite, as well as drills or pins (?) of native copper, perhaps used as stone before the advent of pyrotechny. No dates are yet available for this early village.

Unlike Palestine, where numerous Natufian sites are overlaid by deposits of successive cultures which enable one to trace subsequent developments, as at Jericho or Beidha, there is as yet no single site in Iraq where a sequence from Zawi Chemi to Jarmo has been found. The sites of Karim Shahr (north of Chamchamāl), M'lefaat and Gird Chāi (on the lower reaches of the Great Zab) might supply a typological link, but the series may well be incomplete. Unless the development in the southern Zagros is derivative and therefore somewhat later in date, which is by no means apparent, the similarities between the Bus Mordeh

¹ §11, 5, fig. 7.

³ §11, 5, fig. 17.

² §11, 4, 417; §11, 5, figs. 5, 6.

⁴ §11, 2, 138.

phase, dated to about 7000–6500,¹ and Karīm Shahr do not support a date for the latter culture contemporary with Zawī Chemi. On the contrary, Karīm Shahr may be considerably later, and nearer in time to Jarmo. Typologically M'lefaat is placed between Karīm Shahr and Jarmo by Braidwood, but he also places Karīm Shahr in the Zawī Chemi period, which seems too early. Even by stretching the radiocarbon dates there is a long period to fill between the end of Zawī Chemi (at latest c. 8500 B.C.) and the beginning of Jarmo (at the earliest c. 7000–6750 B.C.) and the published evidence is by no means conclusive to fill this gap.

Karīm Shahr² is a hilltop site with no traces of any continued occupation, and like Zawī Chemi it may be a seasonal site. A random scatter of pebbles may represent a denuded house-floor(?) or remains of inconsequential huts. Domestic animals or plant cultivation have not been reported, but there is apparently an increase in the numbers of such animals as later became domesticated, hence a selection of quarry, which may be significant. Unlike Zawī Chemi, Karīm Shahr produced some blades with sickle sheen, implying the reaping of probably wild cereals, but ground stone tools are less in evidence than at Zawī Chemi.³ A greater emphasis is placed here on chipped tools; but here also artefacts are rare in comparison with the number of retouched pieces and waste flakes. Notched and serrated pieces are the most common types; microliths occur, but lunates are missing. The Karīm Shahr flints are better made. Stone rings and bracelets and two lightly baked clay figurines are innovations; beads and pendants continue as before.

The site of M'lefaat,⁴ which may be of the late Karīm Shahr period, shows rough circular stone walls and a preponderance of ground and pecked stone tools over chipped ones. M'lefaat is said to be a mound with several occupation levels and the same animals are present as at Karīm Shahr. Gird Chāi⁵ has a flint industry close to that of Karīm Shahr and M'lefaat and there is some obsidian. No further details are yet available. It is evident that more research is required to elucidate developments in north Iraq for the period between Zawī Chemi and Jarmo.

Jarmo, an agricultural village. On the edge of a deep wadi in the plain of Chamchamāl lies the now famous site of Qal'at Jarmo,⁶ covering about 3–4 acres, which is small compared

¹ §III, 3, 106. ² §II, 1, 52, 170, pls. 22 f. ³ §II, 3, 410; §I, 1, fig. 4.

⁴ §II, 1, 50. ⁵ §II, 1, 55 ⁶ §II, 1, 38 ff., 170 f., pls. 14 ff.

with the 10 acres of Jericho or the 32 acres of Çatal Hüyük, its contemporaries. It probably contained not more than twenty to twenty-five houses with an estimated population of about one hundred and fifty souls. Sixteen superimposed floor-levels have been established, of which only the top five were characterized by pottery. Braidwood would allow about four hundred years for the entire sequence, which seems too short a span of time and clashes with his own chronology, which places the *floruit* of the site c. 6750 B.C. on the basis of a cluster of radiocarbon dates.¹ Jarmo represents something new in the prehistory of Iraq: a fully sedentary agricultural village growing (and not merely reaping) Emmer wheat, still morphologically close to the wild form, but already accompanied by Einkorn wheat, as well as hulled two-row barley (also close to the wild ancestor) at a date c. 6500 B.C. Lentils, field peas, blue vetchling were also grown and pistachios and acorns were still collected for their fat contents.² Among the animals, goat and dog (?) and perhaps pig were domesticated, but not sheep, or cattle, which were hunted together with gazelle and wild boar. Snails still formed part of the diet.³

These early farmers lived no longer in round huts, but had learned to build houses of rectangular plan,⁴ made of irregular slabs of mud (locally known as *tauf*), but only in the latest levels set on stone foundations. The walls were plastered but not painted. The floors were likewise plastered over a basis of reeds. Reeds also served as roof cover, supported by beams and covered with a thick coating of mud. Sunk, clay-lined basins served as hearths and only in the later houses were ovens with chimneys found⁵ (as at Tepe Gūrān in Iran). The rooms were small, 5–6 ft. in length, but each house consisted of a number of rooms. These houses marked a great advance over the earlier round huts and the change from circular to rectangular buildings during the seventh millennium is paralleled in Palestine.

The chipped stone industry, mainly in flint, but with a significant addition of imported East Anatolian obsidian (used mainly for microliths such as diagonally ended bladelets, triangles, trapezoids, crescents, etc.), is essentially a blade industry. Knives and sickle blades predominate and these were fixed with bitumen in wooden handles.⁶ Some of the microlithic points may have served as arrowheads. Great advances were made in the ground stone industry, which now no longer produced only the articles

¹ § II, I, 68 f.

³ § II, I, 170 f.

⁵ § II, I, pl. 14 B.

² § II, I, 99 ff, pls. 27 f.

⁴ § II, I, pl. 14 A.

⁶ § II, I, pl. 17 ff.

needed for the preparation of plant food (such as grinding stones, etc.), but tools for carpentry, such as polished axes and adzes, and also door-pivots, palettes for ochre-grinding, perforated maceheads and finely ground stone bowls, beads, rings, bracelets and other items of jewellery.¹ Bone tools continued without much change; also spatulae, awls, rings, beads and pendants. New also are the first well-modelled and sun-dried or lightly baked figurines of Mother Goddess type, or portraying animals, often with marked naturalism.² Children's toys such as small marbles and cones were made of the same material, but pottery was not yet fashioned.

Ceramic Jarmo and Iranian relations. When pottery finally appears at Jarmo, in the top five levels, there are two successive groups, of which the earlier (levels 4-5) is the better made. This earliest pottery is painted in red on an orange-buff or reddish surface with oblique blobbed lines and is known as 'Jarmo painted ware'.³ It appears without prototypes and was probably imported from further east, where e.g. at Tepe Gūrān it appears from level P-H, coming to an end c. 6000 B.C.⁴ There it preceded the Tepe Sarāb ware, which is a development of it, but both wares continue to exist side by side. Braidwood considered that Tepe Sarāb represented a more advanced culture than (aceramic) Jarmo. Tepe Gūrān confirms it. Among the various wares that follow in Tepe Gūrān G-D is a red burnished ware that may be related to the crude and probably locally made pottery of the uppermost three levels of Jarmo,⁵ at Ali Āghā and perhaps a little later in the bottom layers (1a) of Hassūnah near Mosul. The Tepe Gūrān sequence then suggests that 6000 is the rough dividing point of the two ceramics at Jarmo, where the first pottery may have been introduced c. 6100 B.C. Aceramic Jarmo therefore ends at this date and with its eleven building levels its beginning may reach Braidwood's date of 6750 B.C. The end of Jarmo would then fall fairly soon after 6000, in any case before the beginning of the following Hassūnah culture c. 5800 B.C., when for the first time early farmers established permanent settlements in the alluvial plain of Mesopotamia. Some previous attempts to settle, as at Ali-Kush in Khūzistān or at Buqras on the Syrian Euphrates, settlements which were afterwards abandoned when agriculture failed, will be described below.

¹ §II, 1, pl. 21.

² §II, 1, pl. 16.

³ §II, 1, 43 f., 63 f., pl. 15, 12 ff.

⁴ §III, 4, 120.

⁵ §II, 1, 43 f.

III. THE ZAGROS ZONE OF SOUTHERN IRAN

Before we can turn our attention to the rise of the first agricultural communities in the alluvial lowlands, developments in the southern (and Iranian) part of the Zagros zone must claim our attention, for it is not only in the north, in what was later to become Assyria, but also in the south, the future states of Sumer and Elam, that farmers would set out to exploit a new environment soon after the beginning of the sixth millennium B.C.

Ali-Kush. The mound of Ali-Kush, also known as Bus Mordeh, is circular in size, with a diameter of 175 m., rising 4 m. above the level of the steppe-like plain, a natural winter grassland. Though situated only 650 ft. above sea level, it is overshadowed by the Iranian plateau to the north and east rising to a height of 2700 m. and near enough to it to have an annual rainfall of 12 inches, enough for dry farming.¹ The site seems to have been chosen c. 7000 B.C. by goat herders taking advantage of the winter pastures. These intensively collected the seeds of wild legumes and started to grow domestic Emmer wheat and two-row barley in small amounts, grains introduced from the Zagros mountains to the north-east.² Hunting still played an important role in their economy; gazelle, onager, wild cattle and boar were the principal quarry. Carp and catfish, turtles and clams added to the diet. In this early 'Bus Mordeh phase' (c. 7000-6500 B.C.) the houses of the village were built of slabs of clay, apparently unplastered. On the floors of these pit-houses (circular in shape?) were found hearths and heaps of compost and a few flat-topped and saddle-shaped querns. Crude unbaked clay figurines were made, but pottery was yet unknown. Great quantities of chipped flint tools, including many fine end scrapers, poorly made cores and a few sickle blades, resemble those of the site of Karim Shahr in north Iraq.

The next period on this site, known as the 'Ali-Kush phase' (c. 6500-6000 B.C.), saw a steady cultural advance. The domestication of the goat, and perhaps also of sheep, has been accomplished, and more intensive hunting of wild cattle and onager with wooden or bone-tipped spears is accompanied by a development of specialized butchering tools. Important advances are made in agriculture: instead of a preponderance of legumes, Emmer and some Einkorn, hulled and naked barley, are now grown, amounting to 40 per cent of domesticated plants.

The houses are better built in large mud-bricks and the walls

¹ §III, 3, 105 f.; §II, 297 ff.

² §III, 3, 106.

are now plastered on the inside. Burials are found below the floors; corpses are buried in seated position and accompanied by turquoise, stone and shell ornaments. The skulls show cranial deformation. Technological improvements are characteristic of this phase; there is a marked increase in grinding stones parallel with the increased importance of cereal foods. Flint is still the main material for the manufacture of tools and weapons, but imported obsidian is now found. Crescents or microliths are absent, and there is no evidence for the use of bow and arrow. The stone industry resembles that of aceramic Jarmo. New is the use of hammered native copper, which must have come from the Iranian plateau. Weaving is attested in the form of twilled mats and twined basketry. Pottery is still unknown, and does not appear until the 'Muḥammad Ja'far phase' (c. 6000–5700 B.C.), the last represented on this site. In this phase further developments are notable, among them a great increase of domesticated goats and sheep, a steady decline in the frequency of cultivated plants, Emmer and hulled barley, the cultivation of which seems to have come almost to a standstill in the second half of the period. This increase towards pastoralism is accompanied by the predominance of a wild plant, *Prosopis*, still used as fodder. Houses are still built of brick, but are now provided with stone foundations and have plastered and red-painted walls. Ground stone tools show great diversity, and many varieties of mortars have been found. The chipped stone industry, almost entirely blades, very fine cores, but few sickle blades, and microliths including crescents and arrowheads, is similar to that of the upper pottery-bearing levels of Jarmo, Tepe Sarāb and Tepe Gūrān. Noticeable is the first use of pottery, both monochrome and painted. Intramural burial habits continue and the dead are accompanied by turquoise ornaments, labrets, stone and shell beads strung into 'loincloths'. At the end of this period the site was deserted, but some continuity may be inferred from the presence of pottery of 'Muḥammad Ja'far' style in the lower levels of Tepe Sabz, which represents the Susiana sequence of Le Breton,¹ marking the first introduction of irrigation techniques into the alluvial lowlands c. 5500 B.C.

Before describing these important events which laid the basis for the rise of civilization in southern Mesopotamia in the later states of Sumer and Elam, parallel developments in the highlands of western Iran must be briefly reviewed, for it is here that pottery seems to have made its first appearance, and not in the plain.

¹ §VIII, 1, 79 ff.

Ganj-i-Dareh Tepe and Tepe Asyāb. Situated east of Kirmānshāh and south of Bisetūn respectively, at an altitude of 1300–1400 m., these two aceramic mounds are the earliest yet found on the Iranian plateau. They are comparable in date to Shanidar and Zawi Chemi and the former site has yielded a carbon 14 date of $c. 8700 \pm 150$ B.C. (GaK-807).¹ Whereas Tepe Asyāb² shows only pits, possibly the base of reed huts or tents, indicative of seasonal occupation, Ganj-i-Dareh Tepe produced a 20 ft. deposit of solid 'architecture', indicating permanent settlement. There is no evidence yet for food production here, but animal bones are abundant and the ash deposits may produce cereal remains when analysed. At Tepe Asyāb coprolites contain remains of plants, and bones of lizards, frogs or toads, but their human provenance is disputed. The flint industry lacks geometric microliths, burins, sickle blades, obsidian and polished stone tools.

*Tepe Sarāb.*³ The finds from this site, another small mound in the same plain, are considerably more advanced, even if its 'architecture', consisting of pit-like depressions probably again representing tents or reed huts, indicates a seasonal settlement of semi-nomadic villagers whose permanent village was in a lower valley, like Tepe Gūrān, 350 m. lower than the Kirmānshāh plain. The end of the Tepe Sarāb period has been dated to 6065 ± 150 (Gūrān H), and datings from Sarāb itself give 5883, 5932 and 6245 B.C., suggesting perhaps 6300–6000 as a possible date for this culture. Pistachios and snails seem to have been particularly common on this site, but cereal food is now known in the form of Emmer wheat (Sarāb), two-row hulled barley, and wild two-row barley (Gūrān).⁴ Agriculture was therefore practised. The flint industry of Sarāb is said to resemble that of Jarmo, but as the site is unpublished, no further details are available. The other finds consist of fine stone bowls, some oval in shape, a monochrome red ware and a fine painted ware, all with parallels in Tepe Gūrān. Not paralleled there are some very fine clay figurines of seated women, evidently representing the Mother Goddess,⁵ as well as some very naturalistically modelled figurines of wild animals, among which that of a charging wild boar is outstanding.

*Tepe Gūrān.*⁶ Here, 60 km. further south, at the northern end of the fertile plain of Hulailan, 950 m. above sea level, P. Mortensen dug a trench which revealed eighteen successive

¹ *Science*, 153 (1966), 386 ff.

² §III, I, 2008 ff.

³ §III, 4, III, n. 5.

⁴ §III, 4, 112, and information from Dr H. Helbaek.

⁵ §I, I, fig. 28.

⁶ §III, 4, 110 ff.

building levels in a deposit of 25 ft., roughly datable to the millennium between c. 6500 and 5500 B.C. The mound is oval, measuring about 110 x 80 m. The lowest 5 ft. of deposit on the site consisted of the remains of decayed wooden huts with rectangular or slightly curving walls, seasonal occupation of the type found at Tepe Sarāb but earlier in date. These people were goat herders living on the site only in winter time, and hunting gazelle and several species of birds.¹ The three lowest building levels are aceramic (V-T); the next three see the appearance of undecorated greyish-brown ware in coarsely made thick-walled bowls with vertical or slightly curved sides, wet-smoothed or burnished (level S), a finer plain buff ware (from R onwards) and an archaic painted ware (R-O), chaff-tempered like most Iranian pottery, and painted in red on orange-buff burnished slip. The patterns are widely spaced and extremely simple, mainly linear. Shapes are bowls and beakers with curved or vertical sides and flat bases. This early pottery has as yet no parallels.²

About 6300 B.C. permanent settlement takes the place of seasonal occupation. Agriculture is now practised (barley); querns, mortars and sickle blades appear. Mud-brick houses are introduced on stone foundations, but side by side with them wooden huts still survive (P-N). The latter disappear soon. Goat is still the only domestic animal, but other big animals are now hunted, such as wild cattle. Flint dominated the production of a blade industry with few microliths, but obsidian was also imported from the north. Sickle blades with a gloss along the edge were set in wooden handles; other types included end-of-blade scrapers, borers and numerous notched blades. Characteristic of this first phase of the mud-brick village was undecorated buff ware, already known before, and a standard painted ware, orange-buff or reddish-slipped, straw-tempered, sometimes burnished and decorated in red patterns of obliquely placed blobbed lines. Bowls with curved sides and flat bases are characteristic of this pottery of levels O-H, which is identical with the imported painted pottery in the upper (ceramic) levels of Jarmo in north Iraq.³

A development of this Jarmo-type pottery first found in level L, and continuing likewise to level H (c. 6065 B.C.), is the Tepe Sarāb ware.⁴ Its bowls are slightly carinated, often with convex outcurved sides and flat or rounded bases. The decoration is still obliquely placed, but the blobs have given place to more regular

¹ Information from P. Mortensen.

³ §III, 4, 114 ff, figs. 16 f.

² §III, 4, 113 ff., figs. 15 f.

⁴ §III, 4, 116, figs. 16, 18

small square, rectangular or polyhedric spots. Another form of decoration is confined to horizontal bands of lozenges, triangles and chevrons on rim and carination again as at Tepe Sarāb.¹ The buildings of this period show little change, but white and red gypsum floors occur as well as a mosaic of flakes of felspar set in red ochre, and these continue during the last phases when further pottery developments take place. In the upper levels (J–D) the Sarāb type of ornamentation develops into a close-pattern style,² still obliquely placed on carinated bowls larger in shape than the Sarāb ones. These close-style bowls with negative design are reminiscent of the later Ḥajji Muḥammad ware of South Mesopotamia and related wares in Khūzistān and may well be ancestral to them. A red burnished ware is known from levels H–D (post-Sarāb): open bowls and cups with flat or rounded bases, also known from Iran and north Iraq; but a specific type of the latest two levels at Gūrān (E–D) has a dimple base³ characteristic of Tepe Sialk I, *c.* 5600 B.C. Burials seem to be rare, but at least one contracted burial was found in an oval grave in the aceramic deposit. As at Sarāb white and pink marble bowls⁴ and jars were made, and lightly baked clay figurines representing women, animals and a phallus. Ground stone tools included polishers, pounders, querns, a celt, numerous sling-stones, beads, etc. Bonework included spatulae, awls and pins. No metal has been reported. Tepe Gūrān is important for its many links with other cultures and its long stratigraphic succession, carefully dug and already adequately reported.

IV. SYRIA AND LEBANON IN THE SEVENTH AND SIXTH MILLENNIA

Far too little is known about the earliest cultures of Syria and Lebanon as distinct from Palestine to give a complete and coherent account of their development during the tenth to eighth millennia B.C. Though cultures like the Kebaran and the Natufian have left traces in the caves of the Nahr el-Kelb and those near Jabrud, subsequent developments await a thorough archaeological exploration which has not yet taken place. As obsidian from central Anatolia reached Jericho in the late Natufian, perhaps after *c.* 8300 B.C., and Red Sea cowries appear as imports in Çatal Hüyük VII *c.* 6200 B.C., trade routes through Syria

¹ § III, 4, figs. 11 f.

³ § III, 4, fig. 16, 1.

² § III, 4, fig. 15 f–g.

⁴ § III, 4, fig. 19.

were evidently open, but little is known about the cultures of the time or the people through whose hands these imports passed. Only in the last few years have remains of the seventh millennium been investigated in Syria, at Ras Shamra on the North Syrian coast, and at Tell Ramad, south-west of Damascus. Here early cultures were found which are closely connected with Palestine and Jordan. For the matter of this section it is not practicable to observe the general scheme of this *History*, which distinguishes between Palestine and Syria (with the Lebanon), for the Syrian developments of this period are closely related to the Pre-pottery Neolithic B, as it is called, of Jericho, Beidha, and the Jordan valley in general.¹ Carbon-14 dates from Jericho have established that this culture covered the seventh millennium B.C. and at this site more than twenty building levels are represented. Characteristic are well-built large houses of rectangular plan, each with a main room and one or two ante-rooms, arranged around courtyards. Walls and floors are covered with lime plaster which is stained red, buff, pink and burnished, but it is not known how far the red plaster was carried up the mud-brick walls. Hearths, when found, are sunk into the floor and not raised. Burial habits are peculiar and perhaps suggest secondary burials, which are often incomplete. The dead are buried intramurally. Plastered and painted skulls with cowries or shells set into the eye sockets are peculiar to Jericho and may be the heads of revered ancestors rather than head-hunting trophies. This culture arrives fully fledged in the Jordan valley and marks a distinct break with the previous Pre-pottery Neolithic A, and it is suspected that its origins are to be sought farther north, in Syria. Recent excavations at Ras Shamra on the North Syrian coast and at Tell Ramad near Qattana, south-west of Damascus, have thrown light on this vital problem. At both sites the earliest, but thin, deposits Ras Shamra VC² and Tell Ramad IA and IB³ have yielded remains of plaster floor apparently not stained red. The architecture of the period is not yet known, but plastered hearths, rounded at Tell Ramad, were found. The basalt querns with double basins and pounders and the flint and obsidian industry with burins and un-retouched sickle blades (and silica sheen), notched arrowheads, tanged arrowheads and daggers show close resemblances to those of Jericho Pre-pottery Neolithic B. Animal figurines occur, but pottery is unknown at both sites. Limestone bowls are common; bone tools are frequent. At Tell Ramad,

¹ See below, pp. 499 ff.

² §IV, 10, 151, ff., 257 ff., 492 ff.

³ §IV, 6, 114-15, 120, pls. 1, IV.

animal bones show only wild animals, deer and gazelle, whereas at Jericho the goat was domesticated; Emmer wheat and lentils were grown. Whereas close resemblances are found between Tell Ramad and Jericho Pre-pottery Neolithic B, such are less obvious at Ras Shamra in the north. Radiocarbon dates are available for both sites: 6665 ± 101 for the earliest and 6436 ± 10 for the end of the last of three building levels of Ras Shamra VC, whereas 6250 ± 80 and 5950 ± 50^1 date the next period at Tell Ramad (II), so that Tell Ramad I must have ended before 6250 B.C.

Tell Ramad II, dated to the last quarter of the seventh millennium, is the most prosperous period on the site. Houses are built on a rectangular plan with mud-brick walls on stone foundations, and floors are either of stamped earth or plastered, as in the previous period.² Funeral habits are like those of Jericho Pre-pottery Neolithic B with red plastered skulls. The stone industry resembles that of the period before, but denticulated sickle blades now appear. Clay statuettes of Mother Goddess type and animals are abundant and the economy of the period continues as before with the cultivation of grain, lentils being supplemented by the collection of almond, plum, pistachio and *crataegus*. Pigs are now definitely domestic, and perhaps also sheep, goat and cattle, whereas gazelle was still hunted. This period of Tell Ramad II is probably still contemporary with the end of Jericho Pre-pottery Neolithic B, but some innovations from the north of Syria had now reached Tell Ramad in the form of a white moulded and heavy pozzolanic ware,³ probably imitating the limestone bowls of the previous period, and associated with this white chalky ware is the first crumbly pottery. These wares do not seem to have reached Palestine, and are a specific feature of western Syria, where they occur at much earlier dates in the north, e.g. at Ras Shamra VB⁴ soon after 6400 B.C., at Tell Sukas and Hama on the Orontes. The white ware is found at Byblos too, in the earliest neolithic deposits, together with a dark burnished pottery the ultimate origin of which lies in Anatolia. The earliest levels of Byblos produce, around 6000 B.C., a hybrid pottery, a dark burnished ware coated with a white chalky slip on interior and exterior, as well as normal dark burnished ware, plain or decorated with shell-combed impressions.⁵

¹ §IV, 6, 36 f. and information from H. de Contenson.

² §IV, 6, 115, 121, pl. II. ³ §IV, 6, 116, pl. IX; §IV, 5, 36; §IV, 12, pl. 2.

⁴ §IV, 10, 160 ff., 259 ff., 311 ff., 506 ff.; §IV, 5, 36.

⁵ §IV, 7, pls. IV, 4, and IX.

In Syria, in fact, we see a local development from a culture like Ras Shamra VC, without pottery, to one in which various forms of pottery come into use. In Ras Shamra VB the white pozzolanic wares probably represent a local imitation of limestone bowls in a more tractable material, side by side with (or perhaps a little earlier than) the manufacture of a dark burnished ware, red and brown, with grit temper, derived through Cilicia from similar wares of the Anatolian plateau, the earliest known centre of pottery production in the Near East. At Çatal Hüyük, the excavations of 1965 have yielded evidence for the production of a heavy straw and grit-tempered burnished cream ware from level XIII onwards, perhaps *c.* 6750 B.C., from which the pozzolanic white ware of Syria may have been copied. In level VII, *c.* 6200 B.C., the fine grit-tempered dark burnished wares come into their own as a refinement of the earlier wares—their first appearance in small quantity is in level VIII, in about the same century B.C.—and it is this brown, greyish-brown or even black ware which reaches north Syria via Mersin in Cilicia, being present in Ras Shamra VB and 'Amūq A, and from there reaching Byblos by about 6000 B.C. Undecorated on the Anatolian plateau, it picked up impressed shell decoration in Cilicia and in the north Syrian coastal regions, and at Byblos this form of decoration, confined to the rims of hole-mouthed vessels in the north, was spread all over the body of the pot. As this hard-fired ware developed, the white wares gradually gave way and disappeared altogether. White wares are widespread in the Biqā' valley.

Throughout the development here sketched in its barest details, the north of Syria was well ahead of the Lebanon and the Damascus region and these areas in turn were far more advanced than Palestine and Jordan. Considerable time-lags are involved, which show that the techniques of pottery production spread south very slowly indeed,¹ and were not carried by a wave of colonizing agriculturalists. The slow appreciation of the advantages that pottery offered to settled communities was shared by the island of Cyprus, where the first attempts to produce pottery were abandoned in Khirokitia I, around 6000 B.C., in favour of stone vessels of a magnificence unparalleled elsewhere in the Near East.

Ras Shamra VB (and 'Amūq A) with its rectangular houses and plaster floors came to an end *c.* 6000 B.C., according to radiocarbon dates, a little after the Early Neolithic of Byblos began. Characteristic of this large site were rectangular houses²

¹ §IV, 12, 128

² §IV, 8, pls. II b, IV.

built of mud-brick or light materials such as walls of reeds plastered on both sides. The plan consisted of a main room with perhaps a storage chamber added. Each room had a hearth and sometimes a bench or platform near it along the wall, and floors were made of lime plaster as in Tell Ramad and Jericho Pre-pottery Neolithic B. Red floors are not reported. The houses stood by themselves, as at Jeitun in South Turkestan or at Nea Nikomedeia and Karanovo in the Balkans. The pottery has already been described, but it should be noted that much of it was not dark burnished, but orange or cream in colour. Small clay figurines were made as well as clay stamp seals which, like much of the flint industry including fine tanged arrowheads, pressure-flaked or not, and bifacially pressure-flaked daggers,¹ show unmistakable resemblances to that of Çatal Hüyük VI, *c.* 6000 B.C., on the Anatolian plateau. Obsidian is rare or unknown but greenstone axes were imported. Denticulated sickle blades (a feature not paralleled in Anatolia) show close resemblances to those of Tell Ramad II, a culture possibly of similar origin. Emmer wheat is reported from Byblos, as from 'Amūq A; otherwise no details are available about the economy of the site. The Byblos Early Neolithic culture is known from numerous places extending in an almost unbroken belt from Ṭabbat el-Hammām near Tarsus to Beirut.² In the hills another aspect of the culture is characterized by large tools, including axes for deforestation from Mukhtara³ and Qara'un and similar tools occur in the Antilebanon north of Tell Ramad.⁴

Approximately contemporary with the Early Neolithic of Byblos is the Ras Shamra VA⁵ (and the 'Amūq B) period, *c.* 6000–5450 ± 80, according to carbon-14 dates. In this period rectangular house-plans continue, and characteristic also is the development of finer dark-burnished wares, with fine impressions and incisions. There is a second variety decorated with pattern burnish, in patterns which seem to imitate basketry. A coarse plain ware with incised patterns is also found, which has perhaps been too readily identified with Hassūnah incised ware. Towards the end of the period we find the beginning of painting in red on cream ground with very unsophisticated patterns compared with their more advanced neighbours in the north (Cilicia and Anatolia). 'Husking-trays' of coarse ware, characteristic of the Hassūnah culture, reached Ras Shamra. The stone industry

¹ §IV, 2, 489 f., figs. 1, 2; §IV, 3, 491 ff., fig. 2 f.

² §IV, 3, fig. 1.

³ §IV, 3, 498, figs. 5 f.

⁴ §IV, 11, 175 ff.

⁵ §IV, 10, 164 ff., 257 ff., 310 f., 503 f.; §IV, 5, 36.

developed from that of the previous period; flint is predominant but Anatolian obsidian is still imported and many of the types such as the tanged arrowheads, plain or pressure-flaked, continue the local traditions, which seem ultimately based on the rich industry of Çatal Hüyük. Polished greenstone axes are common, the material for which was probably derived with obsidian from Anatolia in exchange for flint.

Farther north, the site of Sakçagözü¹ has produced similar wares, as well as a variant in which fine incision takes the place of pattern-burnishing. Bowls with oblique sides are common and it has been suggested that some of the earliest Halaf vessels of the following period are derived from such prototypes. The distribution of pattern-burnished ware was not confined to western Syria, but extended well east of the Euphrates, where it was found on virgin soil at Chagar Bazar² and a number of other sites. Fragments of this greyish-black ware occur as imports at Hassūnah as late as levels IV and V (5335 ± 200),³ immediately before the Halaf impact which characterizes Hassūnah VI. Syrian and Mesopotamian dates are thus in agreement.

Whereas a continuous development can be traced in western Syria from the seventh millennium to the beginning of the Halaf period c. 5300 B.C. (and beyond), a period during which new inventions from Anatolia gradually penetrate and are absorbed, a sudden break in culture is apparent in regions farther south. In Palestine and Jordan the settlements of the Pre-pottery Neolithic B period are apparently deserted c. 6000 B.C. and the new developments of Syria and Lebanon are not adopted. It seems that after a promising start these southern regions returned to nomadism, which is marked by a profound hiatus in the archaeological record.

A similar pattern can be discerned in the development of Buqras,⁴ an early village site on the Syrian Euphrates near the confluence of the Khabur. Here the earliest two levels (Buqras I) have yielded houses built of *pisé* (as in north Mesopotamia), with stamped-earth floors, sometimes covered with mats. A chalk plaster is used on walls and parts of the floor. Small figurines of humans were made, but pottery is unknown. Besides tools of bone there is an epi-palaeolithic stone industry in flint and imported Anatolian obsidian with end scrapers on blades, arrowheads and sickle blades. Pounders and querns of diorite,

¹ §IV, 9. 132 f., pl. xxiii, xxiv, 8-10.

² *Iraq*, III, pl. III. ³ §v, 4, 265.

⁴ H. de Contenson, in *Ann. Arch. de Syrie*, 1966.

sandstone and basalt are found, but, surprisingly enough, no remains of plants. Wild cattle, bezoar (goat) and sheep were hunted.

In Buqras II there are four superimposed villages, now built in mud-brick, with pillars and benches and plastered floors. There is still no pottery, but bowls are made of polished gypsum and alabaster. The stone industry is derived from Buqras I, with flint and obsidian scrapers and arrowheads, and more and more burins. Sickles, blades, querns and pounders disappear. The fauna of wild animals is the same and there is no trace of agriculture.

In Buqras III, the seventh village is of the same type with the same industries, but now a few sherds of dark burnished pottery appear, as well as a polished axe. Besides wild animals there may be some domesticated specimens of sheep and cattle. After this pastoral phase the village is deserted.

Buqras looks like an attempt by early farmers at settling in the Euphrates valley which failed, just as the early settlements in Palestine seem to have failed ultimately, though after a much more prolonged effort. It may be that their crops were not yet accustomed to conditions so different from their natural mountain habitat. The pattern is reminiscent of what happened at Ali-Kush in the 'Muḥammad Ja'far phase', with similar lowland conditions in north Khūzistān, which likewise ended in pastoralism and the desertion of the site.

Before describing the impact of the Halaf culture on Syria and its repercussions on Lebanon and Palestine, we must now turn to the earliest cultures yet discovered in the plain of Mesopotamia.

V. THE MESOPOTAMIAN PLAIN

The three superimposed camp sites found at the bottom of the tell of Hassūnah I A,¹ south of Mosul, with their peculiar pottery, are still the first signs of settlement in the Mesopotamian plain.

The following phase in which villages with agriculture are established is represented by Hassūnah I B and Tell es-Sawwān I, south of Sāmarrā on the east bank of the Tigris, the southernmost site of the Hassūnah culture.

Recent Iraqi excavations² at this site have yielded important evidence for the beginning of the Hassūnah culture in the form of developed mud-brick architecture and a rich cemetery

¹ § v, 4, fig. 27.

² *Sumer*, 20 (1964), 1 f., and 21 (1965).

of over a hundred graves associated with Tell es-Sawwān I, showing a sophistication of building and traditions of stone carving hard to reconcile with the idea that these early settlers were nomads from the desert. These people practised agriculture, the main crops being Emmer wheat and six-row hulled barley with an admixture of six-row naked barley, and small proportions of Einkorn wheat and Bread wheat. Other plants were *Prosopis*,

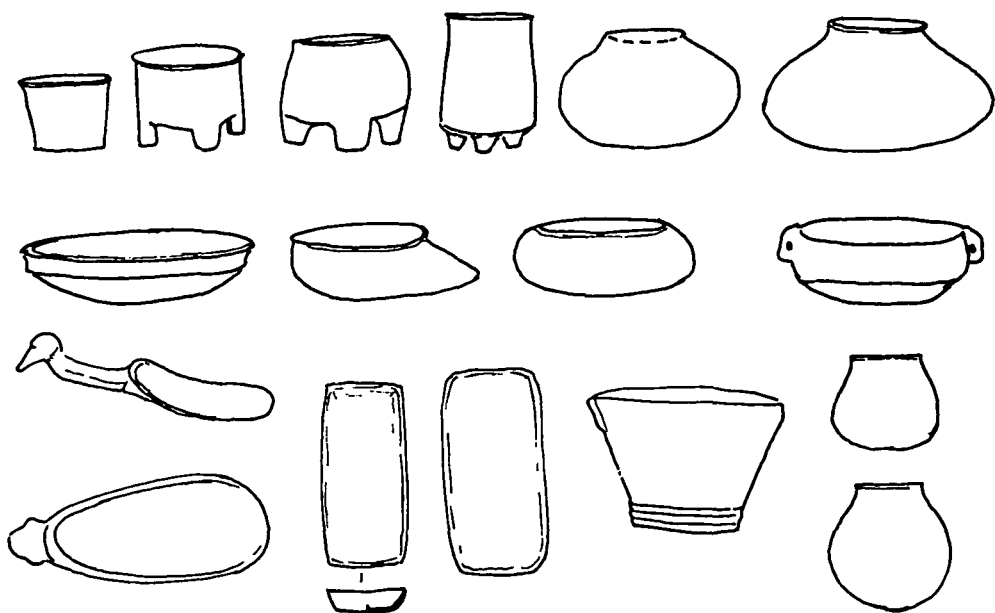


Fig. 20. Tell es-Sawwān I: alabaster vases from cemetery (Hassūnah I B period).

After *Sumer*, 20 (1964), Arabic section, fig. 3.

capser, a thistle, and linseed, which required watering and hence irrigation.¹ Animal bones await investigation.

The architectural remains of Tell es-Sawwān I so far discovered show large buildings of plastered mud-brick with many rooms of rectangular plan, arranged around courtyards and streets. One of the buildings is interpreted as a temple and contained clay statuettes of Mother Goddess type as well as unfinished alabaster figures and stone vessels, of which over one hundred and fifty were found in the cemetery situated below these buildings. The dead were buried in a crouched position in graves cut into virgin soil and though most of the skeletons are those of children, some

¹ *Sumer*, 20 (1964), 45 ff.

belong to adults. An incomplete female burial was covered with red ochre and the body was richly adorned with beads of various stones, shell and dentalium.

Other gifts in the graves consist of pottery vessels (of Hassūnah I B type), alabaster vessels of a great number of shapes, beads of copper, and alabaster statuettes (varying from 2 or 3 in. to 6 in. in height), one to three in each grave. Other graves have phallic symbols, which are never found together with female statuettes. Most of the latter are of the standing type,¹ but some are seated. Male figures, though rare, occur. Some of the figures have eyes of shell, inlaid in bitumen, and some have caps of the same material. The carving is accomplished and naturalistic. Clay statuettes also occur in the settlement of levels I and II, but not in the later levels with Sāmarrā pottery (III–V).

Radiocarbon dates from Tell es-Sawwān place the beginning of the Hassūnah culture in the early 6th millennium B.C. The pottery of Hassūnah I A consists of some fine burnished bowls and a great mass of very coarse straw-tempered light-coloured jars of hole-mouth type, tall or short, and with a sharp break in the profile, below which the vessel sharply tapers towards a flat base. It would appear that such vessels were made in two parts. Lugs, knobs and bars take the place of handles, which are unknown.² There is no painted pottery, nor as yet any incised design. This pottery is related to the pottery from the top levels of Jarmo, though not identical, and is now known to have a vast distribution from Tell Halaf in the north-west to the Susiana region of Khūzistān (in south-west Iran). This simple pottery seems to have been the substratum from which several variants of early pottery developed in the plains. In Cilicia and Syria this coarse ware element was accompanied by fine dark burnished wares of Anatolian type, but in north Iraq and Khūzistān such dark burnished wares were not found, and the proximity of the Zagros zone soon led to the development of several variants of painted pottery. The stone industry of Hassūnah I A consisted of hoes of sandstone and quartzite, often with adhering traces of bitumen used for fixing them to wooden handles. These are probably agricultural tools, and rare in other parts of the Near East. This type³ reappears together with polished celts as far north as Adler on the Black Sea coast at the foot of the Caucasus mountains. Celts with polished bits are common carpenters' tools. Flint and imported obsidian were used for blades, sickle blades, etc. and there are

¹ *Sumer*, 19 (1963), pl. iv.

² §v, 4, 276 ff., fig. 6, pls. xii, 2, xiii, 1.

³ §v, 4, figs. 19 f.

two projectile points¹ in obsidian of Anatolian/North Syrian type, showing evidence for contact with the north-west. Querns, pounders and other polished and ground stone tools are characteristic of the agricultural economy. Sling-stones are also found.

Painted pottery and incised pottery of Hassūnah Archaic type (Hassūnah I_B–II)² also occur in the next building level of Tell es-Sawwān II, whereas at Matarrah only incised ware is found.³ The architectural remains of Hassūnah I_B and I_C⁴ are fairly simple, but only *pisé* was used. Rectangular small rooms are arranged around open spaces and there are remains of a round building. Hearths, querns and storage bins occur in the rooms. The latter are set into the floor and are coated with bitumen and gypsum. Their profiles are similar to Hassūnah I_A pottery and possibly derived from it. Hassūnah II⁵ shows more developed architecture, with rectangular rooms and internal buttresses, but still with many crooked walls. Infant burials are found in jars below the house floors, and occasionally there are adult burials, accompanied by funerary offerings such as pots, beads, etc. Among the plain pottery there appears in level II a new large oval vessel with heavily corrugated or slashed interior, the 'husking-tray',⁶ which has a wide distribution from Hassūnah to Ras Shamra on the Syrian coast, to Eridu in south Mesopotamia, and perhaps also to Susiana. Characteristic of the pottery is an archaic painted ware, decorated in thick glossy or matt red paint on a burnished pink or buff surface with simple linear designs reminiscent of basketry. False chevrons and hatched patterns are common on simple bowls and collar-necked jars. There is a plain burnished ware, often decorated with incision on bowls and jars, the counterpart of the painted ware, and similarly decorated, with herringbone patterns, groups of lines or various arrangements of dots and lines, also known from Matarrah. The decoration of these archaic wares is unsophisticated in comparison with the earlier painted pottery of Tepe Gūrān and Tepe Sarāb in Iran and Hacilar in Anatolia, but more like that of north Syria and Cilicia in its rustic simplicity.

Hassūnah III–V marks the fullest development of this culture, paralleled at Matarrah and Tell es-Sawwān III–V, and Tell Shemshāra in the uplands near the Dokan dam.⁷ At Hassūnah

¹ §v, 4, fig. 22: 9, 10.

² §v, 1, figs. 6–8, 16: 8–10.

³ §v, 4, fig. 29.

⁴ §v, 5, 79.

⁵ §v, 4, 278, figs. 7 ff.

⁶ §v, 9, fig. 28.

⁷ §v, 4, pl. xviii, 1, fig. 3: 8–10.

architecture¹ has matured into fine rectangular plans of multiple-roomed houses with large and small rooms and gabled roofs. Interior features include buttresses, benches, screens, hearths, ovens and grain-bins sunk into the floor. Reed matting² covered the floors and weaving is indicated by spindle-whorls. The stone industry is impoverished, but copper is still unknown. A flint-

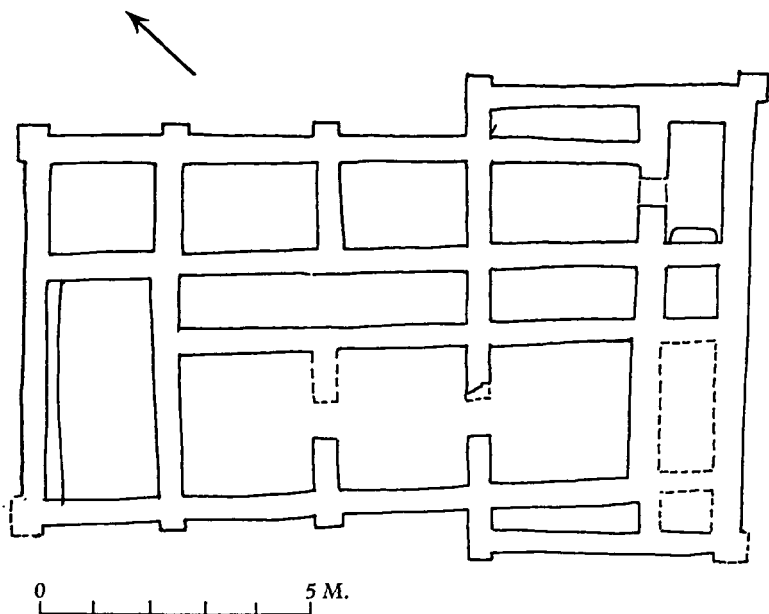


Fig. 21. Tell es-Sawwān IV: temple (?) of Sāmarrā period.
After *Sumer*, 20 (1964), Arabic section, fig. 1.

bladed sickle was found in level III,³ set in bitumen in a wooden handle no longer preserved. Obsidian and turquoise⁴ show trade with the north and east. Red ochre, malachite and antimony are used as paints. Unbaked clay figurines attest the cult of the Mother Goddess.

The pottery consists of 'standard' wares,⁵ showing a great improvement on the earlier 'archaic' wares. There are three varieties: standard incised, standard painted, and standard painted and incised, a combination of the other two. Coarse wares continue unchanged, including the use of 'husking-trays'. The shapes of the standard wares are more sophisticated: simple bowls, deeper bowls with straight rims, and globular jars of

¹ §v, 4, figs. 30-32, 36.

² §v, 4, fig. 38.

³ §v, 4, fig. 37.

⁴ §v, 4, 269.

⁵ §v, 4, 279 ff.

varying dimensions and collar necks are typical and evidently developed locally from their archaic ancestors. Decoration, though, shows great improvement and much more elaborate patterning. The paints used, however, are now matt, and the surfaces unburnished. Handles and lugs are unknown; oval shapes occur, and most bases are flat.

Besides the local pots a new imported luxury ware is found, known as Sāmarrā ware.¹ It first occurs in level III, becomes more common in levels IV and V and continues in use side by side with Halaf in levels VI–VIII. At Tell es-Sawwān it appears again side by side with Hassūnah standard wares in level III, but in IV and V it is predominant. At Matarrah this is the only painted pottery found² and further north, at Tell Shemshāra,³ Sāmarrā ware is the first pottery introduced, the earlier layers being aceramic but contemporary with the earlier Hassūnah development. At Sāmarrā itself, the pottery was found in a cemetery;⁴ at Baghūz, on the Euphrates, in a badly explored settlement.⁵

The Iraqi excavations at Tell es-Sawwān may shed light on the Sāmarrā culture, which is otherwise known only from its painted pottery, decorated in red, brown or black on a cream ground. Painted and incised ware and plain ware have also been found. This pottery is quite distinct from Hassūnah ware and far more sophisticated; it combines rich geometric ornament with bold patterns,⁶ often naturalistic, on the interior of large bowls, and many of the patterns imitate motion. Whirling dancers, running stags,⁷ long-necked birds snatching fish,⁸ and running meander patterns introduce a dynamic tension unknown in the other Mesopotamian cultures of the period. Vegetation also figures in Sāmarrā pottery: there are palm trees, huts and trees,⁹ animals gathered around a pool of water, long-necked animals in rows,¹⁰ swimming waterbirds or flocks of birds in flight,¹¹ crawling scorpions, and rows of dancing girls¹² portrayed along the rims of bowls.

This temperamental naturalism in the Sāmarrā pottery, by its sheer contrast with the rustically sedate decoration of Hassūnah wares or the elaborate and refined dignity of contemporary Eridu ware of the south, has naturally been compared with the

¹ §v, 4, 281 ff.

² §v, 1, pls. vii f.; fig. 16: 8–10, 22.

³ §v, 5, 78.

⁴ §v, 3 *passim*.

⁵ §v, 2 *passim*.

⁶ §v, 3, pls. xxxi, 249, 165, and xxxviii, 250.

⁷ §v, 3, pl. ix, 15; §v, 4, fig. 1: 8.

⁸ §v, 3, pl. vi, 4.

⁹ §vi, 2, fig. 77, 10, 11, 17.

¹⁰ §vi, 2, fig. 77, 16.

¹¹ §vi, 2, fig. 77, 14.

¹² §vi, 2, fig. 77, 19.

pottery of western Iran, and especially that of Sialk II, which also shows animal designs and pedestalled bowls, though not with cut-outs. A West Iranian influence can possibly be detected in the Sāmarrā ware, but the origin of this culture awaits investigation. Effigy vases, with representations of human faces,¹ were found both at Sāmarrā and in Hassūnah V, dated by carbon-14 to 5301 ± 206 B.C., and the *floruit* of the Sāmarrā culture may conveniently be placed in the second half of the sixth millennium B.C. It is possible but not certain that copper and lead were known in this culture, and irrigation probably began to be practised during this period, as a number of sites are situated well outside the region where the winter rains are sufficient for dry farming. The site of Tell es-Sawwān complicates the issue by suggesting the possibility of irrigation even at an earlier period, that of Hassūnah Ib. Alternatively, it is of course not excluded that at this period, the sixth millennium B.C., the annual rainfall was a little higher than it is now and less restricted to the hills. Sāmarrā influence spread wide and far and is noticeable in Syria at Yunus near Carchemish,² at Sakçagözü, in the 'Amūq, and in the Khabur at roughly the same time as the early Halaf period. Towards the south, its influence can be discerned in the Eridu and Susiana A or Ja'farābād culture of Khūzistān, to which we must now turn.

VI. THE HALAF CULTURE

The culture that succeeded Hassūnah in north Iraq is named after the mound of Tell Halaf near Ras el-'Ain, just south of the Turkish border in Syria, but the type site of the culture is Arpachiyah near Mosul. At Hassūnah the Halaf culture appears in level VI, soon after 5301 ± 206 (Hassūnah V) according to a radiocarbon date. Though there is no overlap with Hassūnah, there is one with Sāmarrā wares, which continued to be made during the early Halaf period and died out probably by 5000 or so. This overlap of Sāmarrā with Halaf is found not only in north Iraq, but also in Syria, from Chagar Bazar and Halaf itself to Carchemish and Tell Judaidah. The distribution of this interesting culture³ is vast and it extends from the foothills of the Zagros to the Euphrates near Carchemish and Tell Turlu and even beyond to Gaziantep and the region of Adiyaman in the foothills of the Taurus. It did not extend as far south as the

¹ §v, 4, fig. 1, 2, pl. xvii, 2, 3.

² §vi, 1, pl. lxxvi, 2, 4.

³ §1, 1, fig. 41.

Sāmarrā culture and sites with Halaf pottery increase in numbers northwards towards the Turkish frontier, especially in the Tūr ‘Abdīn area. A recent survey of south-eastern Turkey in the regions of Urfa, Diyārbakr and Siirt has yielded little additional evidence for the distribution of Halaf settlements which are known to exist in these regions.¹ Even on the Anatolian plateau true Halaf pottery has been found at Tilkitepe, east of Lake Vān,² and at Isaköy, Karahüyük and Arslan Tepe in the Malatya district. These settlements may indicate trading stations for the exploration of natural resources: obsidian in the case of Lake Vān, copper and gold around Malatya, and copper in the Diyārbakr (Ergani Maden) area. The spread of Halaf pottery towards the west, in Syria beyond the Euphrates and even into Cilicia, may also have followed in the wake of trading ventures.

The origin of this culture is obscure—it is not developed either from the Hassūnah or Sāmarrā cultures and it is certainly a new-comer in north Iraq. It has been suggested by Professor Mallo-
wan that it developed out of the pattern-burnished wares by the rendering of basket-like patterns of these vessels in painting. This attractive theory finds support in the shapes of both the pattern-burnished and the earliest Halaf wares, which are simple, especially in the west. If this view is correct, the Halaf culture probably originated in the central area of its distribution, e.g. in the Khabur triangle, or the area between the Euphrates and the Jaghjagha rivers, which might account for a number of Anatolian resemblances.

The architecture of the Halaf period is peculiar: at Arpachiyah, three main phases can be distinguished stratigraphically:³ Early Halaf (before TT 10), Middle Halaf (TT 10–7) and Late Halaf (TT 6). No buildings were found that can be ascribed to the Early Halaf period. In Late Halaf, however, there is a house with several rooms of rectangular plan, but still built in *pisé* as in the previous period.⁴ Mud-brick is said not to make its appearance in Mesopotamia until the ‘Ubaid period.⁵ In the Middle Halaf period, however, we find buildings of circular plan⁶ on stone foundations (TT 10, 9), to which in the later building levels (TT 8, 7) a rectangular ante-room is added. The earlier tholos structures have diameters of 5.5–7 m.; they later increase in size to 9–10 m. in external diameter, and with ante-

¹ Information from Prof. R. J. Braidwood.

² Ankara Museum, unpublished.

³ §vi, 2, 18 ff.

⁴ §vi, 2, 13, fig. 5.

⁵ §vi, 2, 16, but see p. 25.

⁶ §vi, 2, 25 f., figs. 7–14.

rooms they reach dimensions of 16.5–19 m. The tholos part of the building was apparently domed, and the ante-room was either an open walled court or was provided with a flat or gabled roof. The walls were very solid, up to 2.5 m. thick. Approached by stone-paved roads, the concentration of the largest tholoi in the centre of the settlement suggested that these buildings were perhaps the shrines of the agricultural community at Arpachiyah. Recent excavations at Tell Turlu near Nizip in Turkey show that houses were constructed in exactly the same way. Hearths and bell-shaped grain-pits, sunk in the floor of the tholoi, which are again provided with rectangular ante-rooms (as also at nearby Carchemish),¹ show the secular nature of these buildings. At Carchemish kilns for baking pottery have also been found. The homogeneity of house plans and construction over this vast area is surprising for such an early period and contrasts sharply with the contemporary rectangular house plans of Ras Shamra IV in north Syria and Mersin XIX–XVI in Cilicia. Contracted burials² were found outside the tholoi at Arpachiyah, and the two graves against the outer wall of the tholos in TT 7 contained exceptionally fine pottery. Flint and obsidian knives are common grave goods. The stone industries of the Halaf period were well developed, obsidian being as common as flint, and used not only for cutting instruments, but for the manufacture of stone vases, beads, links for necklaces with perforations,³ etc. Polished stone vases⁴ are common at Arpachiyah, including beautifully made miniatures. The same interest in carving stone is shown in the seals, beads and amulets,⁵ which are more varied than in any other early culture, including among them models of houses, bulls' heads and the phallus, of human finger-bones, of sickles and winnowing-fans, of birds and double-axe motifs. Black steatite was the favoured material and impressions on sun-dried clay⁶ show that many of these objects were actually used as seals. Stone statues of Mother Goddess type are rather rare,⁷ clay being more frequently used for their manufacture, as also for modelling attendant animals such as doves.⁸ Crude figures in basalt and pumice-stone also occur. Besides the normal range of agricultural tools (querns, pounders, etc.), there are numerous polished celts, a limestone macehead, a perforated basalt axe, a painter's palette, etc. Both copper (pins, a chisel cast in a flat mould) and lead were

¹ §vi, 1, pl. 1.

³ §vi, 2, 102, pl. xi, v c.

⁵ §vi, 2, 90 ff., pls. vi ff., figs. 50 f.

⁷ §vi, 2, pl. xa, 920, 921b.

² §vi, 2, 42.

⁴ §vi, 2, 76 f., fig. 44.

⁶ §vi, 2, pl. ix a.

⁸ §vi, 2, figs. 45 ff.

found, and a peculiar vessel, the Arpachiyah cream-bowl, characteristic for the earliest Halaf deposits, probably imitates copper prototypes. The Halaf culture was the first to introduce metallurgy into Mesopotamia.¹

Little is known about the economy of the period but mixed farming is indicated. Emmer wheat, barley and flax were grown and the latter crop suggests the possibility that linen was produced.² Sheep and goats were domesticated, and so apparently were cattle.³ Bucrania and heads of sheep are among the most characteristic naturalistic motifs⁴ on Halaf pottery. Not less typical are vast numbers of geometric patterns that seem to derive from textile origins⁵ and, to judge by this elaborate profusion of motifs, spinning, weaving and also basketry must have been highly developed. Spindle-whorls are common. Full-time specialization is implied by the elaborate pottery, jewellery, metalworking, etc. The burnt building of TT 6 comprised potters' workshops,⁶ stacked with pottery, and a stone-carver's shop; even the kilns lay in the centre of the site. Like Hacilar in western Anatolia, Arpachiyah may have been a centre for the production of luxury objects, a factory and trading centre, rather than an agricultural site.

This might also account for the brilliance of the pottery, especially the polychrome plates of TT 6,⁷ matched only at Tepe Gawra,⁸ but apparently unknown in the western Halaf centres of Syria. The development of Halaf pottery is of great interest and must be outlined briefly, but unfortunately there is no comparable stratigraphic sequence in the western part to match that at Arpachiyah. Technically, the only distinction of early pottery is poorer firing, but throughout the period the clays are pinkish or buff, the surface is smoothed or burnished, or treated with a burnished apricot slip on which the patterns are applied in a red or black lustrous paint. White stippling occurs first in TT 7, polychromy with patterns in both red and black in TT 6.

Characteristic of the early Halaf pottery are shallow bowls with flat bases and incurving sides, decorated with rough groups of parallel, wavy or zigzag lines, frequently enclosed in panels,⁹ a form of decoration reminiscent of the pattern-burnished or incised wares of Sakçagözü and the 'Amūq as well as of the

¹ §vi, 2, 103 f.

³ §i, 3, 31 ff.

⁵ §vi, 2, fig. 78.

⁷ §vi, 2, frontispiece, pls. xiii ff., figs. 53-57.

⁸ §vi, 4, pls. cx ff.

² Information from Dr H. Helbaek.

⁴ §vi, 2, 154, ff., figs. 73-76.

⁶ §vi, 2, 105 f.

⁹ §vi, 2, 151, figs. 69-72.

roughly contemporary pottery of Çatal Hüyük West (Early Chalcolithic II). Hatched lozenges are also common on this type of bowl and on simple bowls; they are found too on the Arpaçiyah cream-bowls with bevelled base, which also are an Early and Middle Halaf type.¹ Circles surrounded with stippling, panels with stippling, and groups of straight and wavy vertical lines decorate these bowls.² Jars with squat, globular or biconical body and funnel neck show similar patterns, as well as the egg-and-dot pattern.³ Also confined to early Halaf are naturalistic animals,⁴ such as leopards, birds, deer, goats, snakes, hunters, and especially bucrania and rams' heads. Many of these naturalistic figures would seem more appropriate to wall-paintings than to the decoration of pottery, but no wall-paintings have yet been found in this culture.

Middle Halaf sees a prodigious development of sophisticated geometric design: chequer and 'double axe' patterns, fish-scale patterns, stippled squares, and schematization of bucranium design, both vertical and horizontal. Many of the shapes are extravagantly metallic; cream bowls continue to flourish; carinated bowls with bevelled rims and jars with huge funnel necks are common, as well as a larger form of simple bowl, heavily decorated on the exterior.⁵

In Late Halaf there is a profusion of splendid plates and vases with polychrome decoration, and of incised and painted vases,⁶ resembling basketry, but no more cream-bowls. The great plates are among the finest Near Eastern ceramic products, with centre-pieces of stylized petalled flowers, Maltese and other crosses, bucrania, etc. These luxury products are so far confined to north Iraq; further west they are unknown.

From beginning to end, the Halaf pottery shows great homogeneity and, though there are some differences in a number of shapes between the western and eastern groups, the similarities far exceed the differences. White stipples, for example, occur at Boz Hüyük near Adiyaman, cream-bowls at Tilkitepe, bucrania as far west as Mersin, and as far south as Ras el-'Amiya, where they are copied in local wares. The impact of this pottery, probably exported, is notable in south Mesopotamia and especially north Syria, but whereas it penetrated into Cilicia, the highland cultures of south Anatolia, Hacilar I, Çatal Hüyük West II

¹ §vi, 2, fig. 71, 1, 7-9.

² §vi, 2, 131 ff., figs. 62 f.

³ §vi, 2, figs. 64, 67.

⁴ §vi, 2, fig. 77, 1-9; §vi, 3 (frontispiece); §1, 1, fig. 105.

⁵ §vi, 2, fig. 66: 6, 7, fig. 76: 1, 3, 78. ⁶ §vi, 2, pl. xx, fig. 60.

and Can Hasan, were not influenced by it, probably because they already had their own well-established traditions by the time the Halaf culture began. In the light of new Anatolian discoveries in the last few years, one is struck by certain resemblances, especially in Early Halaf, resemblances which in spite of the originality of this culture seem to be stronger than Halaf links with Sāmarrā or Hassūnah. There are many features that seem to be Anatolian rather than Mesopotamian: the emphasis on bull, ram, leopards, birds in association with a Mother Goddess, the prominence of obsidian, metalworking and weaving, the naturalistic animal figures, the 'St Andrew's' crosses and the 'double-axe' motifs in pottery and stone, the high quality and the burnishing, the use of lustrous paint, etc., are all features that we have come to recognize as familiar from southern Anatolia since the neolithic period in the seventh millennium. If this is a coincidence it is a most striking one. Could it be that the Halaf culture was founded in the second half of the sixth millennium by the inhabitants, partly settled and partly perhaps still nomadic, of the southern foothills of the Taurus mountains in the arc that extends from north Syria to north Iraq? One might expect these people to have been familiar with the higher cultures of their western neighbours on the south Anatolian plateau. Semi-nomadic beginnings may perhaps be inferred from the peculiar architecture of this culture, which consisted of flimsy huts in the bottom levels of Arpachiyah,¹ structurally perhaps not far removed from nomad tents. As time went on, these were copied as the round tholos-like buildings, to grow eventually into the imposing tholoi of the Middle Halaf period. The sixth millennium in Palestine and south Syria saw a return towards nomadic conditions, and when the first pottery-using cultures eventually reached south Syria and Palestine, about a millennium after the beginning of the Halaf culture (i.e. at the beginning of the 'Ubaid culture), we again find a marked lack of architectural remains. Circular pits, partly subterranean, seem to have served as sub-structures of round huts for people who were emerging from nomad or semi-nomadic existence. The parallel is tempting, but the answer to the question of Halaf origins can probably only be given when more Early Halaf sites are excavated in western Syria or south-eastern Turkey.

¹ §vi, 2, 165.

VII. THE HALAF PERIOD IN SYRIA AND LEBANON

The Halaf impact on Syria west of the Euphrates is evident from the excavations in the 'Amūq Plain and at Ras Shamra IV. Whereas Yunus near Carchemish¹ and Tell Turlu near Nizip² represent the westernmost sites of the genuine Halaf culture, the areas further west show strong local traditions overlaid by a Halaf veneer which may be mainly confined to the import and copying of the superior Halaf fabrics—and that only up to a line drawn from Carchemish to Ras Shamra, south of which no Halaf pottery was found.³ As in Cilicia, which also came under this influence, local traditions of pottery and architecture persisted, with fortifications and rectangular rooms of houses in mud-brick on stone foundations.⁴ Pattern-burnished wares, red, grey and black, continue without any technical change, but Halaf shapes are adopted.⁵ Imported Halaf wares stimulated local production of a matt-painted 'Syrian Halaf'⁶ with a restricted range of shapes which excluded such typical Halaf vessels as cream-bowls or the more extravagantly metallic shapes. Motifs were keenly copied; but mixed with them were others derived from the Sāmarrā style—a mixture unknown in the Halaf culture itself. Bucrania and various animals occur, for evidently the religion of these people was not very different from that of their Anatolian or Halaf neighbours. Many patterns were adapted and transformed—'egg-and-dot' becomes an eye pattern at Ras Shamra; long triangles pendent from the rim are characteristic at this and other sites. A change in stone industry is found in the 'Amūq C, and the old projectile points, ultimately of Anatolian origin, go out of fashion. Too little is yet known about internal developments to specify when, during its development, Halaf influence made its debut in north Syria; in Cilicia it does not appear, apparently, until the Middle Phase, in Mersin XIX, *c.* 4900 B.C.

At Ras Shamra IVc Halaf influence first appears as in 'Amūq C, and during the next two phases, Ras Shamra IVb and A and 'Amūq D and E, local adaptations become more marked. These include the appearance of a new monochrome ware,⁷

¹ §vi, 1, 403 ff.

² Unpublished.

³ §1, 1, fig. 41.

⁴ §iv, 5, 36 ff.

⁵ §iv, 5, 38; iv, 1, 137 ff., 505, 509.

⁶ §iv, 10, 497 ff., pls. 1, III 9–22; §vi, 15, 16, 18.

⁷ §iv, 5, 38 and fig. 17; §vi, 3, 71 ff; §iv, 1, 157 ff., 509 ff.

red-coated or red-washed, which takes the place of the earlier pattern-burnished ware which had continued into 'Amūq C and Ras Shamra V A. Among these vessels are jars with bow rims, a shape that also occurs at Tell Halaf itself, but in these western regions such vessels are provided with two loop handles, placed on the body or on the junction of neck and body. This innovation, the first appearance of proper handles, is probably Anatolian and transmitted through Mersin XVII and XVI. Other jars have necks which lean inward, and there are shallow bowls with simple curving profile or flaring sides. Pedestals also make their appearance. This red-wash ware is the plain ware of the period, but some of the new shapes, such as the jars, are painted, sometimes in bichrome, more often in red monochrome, especially in the 'Amūq D period (Tell Kurdu), and in the Ghāb section of the Orontes (Huwayiz and Idlib)¹ south of the plain of Antioch. These North Syrian developments also made themselves felt in the Lebanon, where the middle levels of Byblos I ('Middle Neolithic') show an impoverished architecture, but still with plaster floors. The red-ware shapes, including the bow-rim jar (without handles), appear alongside much pottery that is clearly a development of the earlier culture. Flat bases and more developed shapes appear, the red slip is burnished, and impressions and herring-bone incision are common in reserved bands not coated with a red slip.² Coarse, deeply incised wares also occur, poorly executed. Pattern-burnished bowls are found. The poor stone industry of the north has not yet penetrated Byblos, which continues the old neolithic tradition.³ Pebble figurines are still being made. The contemporary dark-burnished pottery of Tell Ramad III is similar,⁴ but apparently lacks the red-wash component. It is closer to the impressed and incised wares of the so-called Palestinian 'coastal Neolithic'. The stone industry is poorer than that of the aceramic levels and the projectile points have disappeared. No architectural remains have been found, and the pottery comes from pits. Only part of the site was occupied and prosperity has sharply declined, a pattern which Tell Ramad shares with Byblos. From these two cultures the first pottery-using cultures of Palestine are derived⁵—the 'coastal Neolithic', perhaps from Tell Ramad, and the Yarmukian, from Middle Neolithic Byblos. The Palestinian pottery-Neolithic has not yet yielded any evidence for architecture, and cannot yet

¹ § VII, I.

³ § IV, 2, 490, fig. 3.

⁵ § IV, 4, 211.

² § IV, 7, pls. IV, 1-3, v, x; § IV, 8, pl. III, I.

⁴ § IV, 6, 118 f., 122, pls. III, IV c-d, v, vi.

be dated earlier than c. 4300 B.C., which marks the beginning of the 'Ubaid period in north Syria (Ras Shamra III B).¹ Preceding the spread of 'Ubaid influence was a further phase, dated to c. 4500 B.C.,² known from Ras Shamra III C, Tell Kurdu, in which only the red monochrome pottery survived. This phase may be contemporary with the Late Halaf of Arpachiyah (TT 6), but in the west it marks the break-up of settled conditions. Architectural remains are almost absent, both in the north at Byblos (Late Neolithic rectangular structures lack plastered floors)³ and at Tell Ramad III C, and a hiatus in occupation follows at both of these sites. The pottery of this period at Byblos is extremely coarse and heavy; the stone industry changes,⁴ and projectile points disappear. The period ends in a welter of barbarism and migrations.

VIII. SUSIANA AND SOUTHERN MESOPOTAMIA

In a previous section we have already described the establishment of early village sites on the edge of the alluvial plain in the Deh Luran district and we have seen how, soon after 6000 B.C., plain and painted pottery made its appearance in the 'Muḥammad Ja'far phase' at Ali-Kush, together with a decline in agriculture and a concomitant increase in pastoralism that led eventually to the abandonment of the site. After an interval of unknown length, which is due to excavation hazards and probably does not affect actual events, the thread of cultural development can be taken up at Tepe Sabz in the same area, the bottom layers of which show continuity with 'Muḥammad Ja'far'⁵ in pottery and artefacts. This site, now being excavated, promises to give a reliable stratigraphical sequence of pottery which includes the four stages of pottery development in Susiana (A-D) devised by Le Breton⁶ on the basis of soundings in various sites near Susa, the first two of which, Susiana A (Tepe Ja'farābād) and B (Tepe Jau), being pre-'Ubaid, interest us here.

Architecturally, the lower levels of Tepe Sabz⁷ show continuity in the use of rectangular plans of rooms, constructed of large mud-bricks on stone foundations and wall-plaster. *Tauf* (*pisē*) now first appears for interior walls dividing rooms. Continuity

¹ §IV, 5, 38 f.

³ §IV, 2, 489; §IV, 8, pls. I, i, and II.

⁵ §III, 3, 106.

² §IV, 5, 38.

⁴ §VI, 2, 490.

⁷ §III, 3, 106.

⁶ §VIII, I, 79 ff.

is further shown by some pottery decorated in Muḥammad Ja'far style side by side with the new buff-ware pottery of Susiana. Agriculture is by now well established and includes Emmer and Einkorn wheat, a hybrid ('Bread?') wheat, naked and hulled six-row barley, lentils, peas and flax, the latter showing the effective use of irrigation. Trade with the hills produced almonds and pistachios. Domestic cattle and perhaps dogs were now kept, besides goats and sheep. Coiled baskets and spindle-whorls show weaving, which is further emphasized by the elaborate patterning of the painted pottery, decorated in textile style. Tepe Sabz is but one of a number of sites, one of which promises to yield a series of temples, when it is excavated. The increase in village sites is matched in the Susa plain, where recently no fewer than thirty-four sites with Susiana A pottery were identified in a survey.¹ It is difficult to say when this intensive occupation of the lowlands of Khūzistān began, but the coarse wares of early Hassūnah type and the influence of Sāmarrā patterns suggest a date of about 5500 B.C. if not earlier. Generally speaking it would, however, appear that the main body of immigrants came from the south Iranian Zagros zone. Characteristic of the Susiana A and B periods² is a tradition of close patterns on pottery in which the ornament is often indicated in reserve, a tendency that gradually developed at Tepe Gūrān J-D³ in the centuries on either side of 6000 B.C.

As the Tepe Sabz sequence is not yet published, pottery description is still based on the Susiana sequence and is therefore open to correction. The buff wares of Susiana A and B are painted in brown or black, less commonly in red. There are pedestalled vessels, sub-rectangular bowls with trough spout, simple shallow bowls, some with omphalos bases (as in Sialk I), collar-necked jars, and deep bowls painted inside and out. The first three types are paralleled in Hassūnah or Sāmarrā, but there are also west Iranian parallels, e.g. in the earliest Giyān V pottery⁴ which seems to take the place of Tepe Gūrān in the southern Zagros zone. Naturalistic motifs are rare, but include dancing women,⁵ holding hands, as in the Sāmarrā wares. Much of the ornament is in reserve; patterns are close, covering the greater part of the vessel with linear and spidery motifs among which zigzag lines, wavy lines and hatched lozenges are characteristic. Beakers and bowls with linear and restricted ornament are also

¹ §III, 139.

² §I, 2, figs. 41, 42 (*Mém. D. P.* xxx).

³ §III, 4, 117, fig. 17 f-g.

⁴ §IX, 3, pls. 40-42.

⁵ §I, 2, fig. 41, 6 (*Mém. D.P.* xxx, fig. 12: 9).

found. Closely related to Susiana A is the earliest Giyan VA pottery and that of earliest Eridu. The Susiana B pottery seems to be a development. Among new shapes a flat carinated bowl with fine centre-piece is characteristic,¹ also a pedestalled, spouted beaker decorated in Sāmarrā style.² Many of the other shapes continue without appreciable change. Naturalistic ornament is rare, except at Kūzaragān, Tepe Khazineh and Tepe Mussian, where there are human figures and bulls' heads.³ Close-style patterning with reserve areas continues and new motifs include stylized petalled flowers, double-axes,⁴ etc., which are also found in Halaf pottery. Close relations were maintained with Giyan VB and with the Ḥajji Muḥammad pottery of southern Mesopotamia, connections that soon gave birth to a distinctive style, known as 'Ubaid, throughout these southern plains.

To the west and south-west of the Khūzistān plain—the regions of Deh Luran and Susiana, and across the complex system of lakes and marshes fed by the sluggish waters of the Tigris and Euphrates—lies lower Mesopotamia, the ancient land of Sumer.⁵ The area lies beyond the rain-belt which made dry farming possible along the foot of the Zagros and was apparently shunned by farmers until the development of early irrigation systems in the middle of the sixth millennium. The earliest occupation hitherto discovered was at Eridu XIX–XV and is now known as the Eridu culture. No building remains are known from the lowest level (XIX) and these may have been of a temporary nature. Four parallel walls of mud-brick mark level XVIII,⁶ but above them a small rectangular shrine with two internal buttresses was erected in level XVII.⁷ Outside there were two circular kilns. Shrine XVI⁸ was a more elaborate affair in mud-brick with rectangular plan, and with an offering-table and altar set in a recessed niche at the back of the room. Internal buttresses were again present. The level XV temple was considerably larger, and again had numerous buttresses, but its interior features are not preserved.⁹ It was built of long narrow bricks, having rows of thumb impressions on the upper side, like those of Sialk II. Again, there were kilns outside the structure. These superimposed shrines were supplanted by monumental

¹ §1, 2, fig. 42, 10 (*Mém. D.P.* xxx, fig. 23: 4)

² §1, 2, fig. 42: 1 (*Mém. D.P.* xxx, fig. 21: 7).

³ §1, 2, figs. 27 f.

⁴ §1, 2, fig. 42: 9, 10.

⁵ See below, pp. 327 ff.

⁶ §VIII, 2, pl. vi, 122.

⁷ §VIII, 2, pl. vi, 122.

⁸ §VIII, 2, pl. vi, 121 f., pl. viii.

⁹ §VIII, 2, pl. vi, 121.

temples in the next period, of the Ḥajji Muḥammad culture, but the sanctity of the site was preserved throughout the following millennia, and these early and unsophisticated shrines lay below the towering zikkurraṭ of the Uruk period. Houses of the same period show small rectangular plans as in Khūzistān across the marshes, but the more spectacular finds are the pottery vessels made by the first settlers at Eridu.

The pottery is a well-tempered buff or sometimes reddish ware with a light slip, usually painted in a chocolate colour varying from black to dark brown which acquired a glossy colour in the firing. A thinner red paint is also found. Among the coarse-ware vessels are 'husking-trays', characteristic of Hassūnāh. Typical shapes¹ include tall beakers, bowls with spouts, collar-necked jars, jars with everted rims, jars with internal ledges, shallow simple bowls, flat plates, carinated bowls, and deep bowls, also carinated. Most of these shapes have close parallels in Susiana, and the carinated bowls go back to Tepe Sarāb and Tepe Gūrān. Other shapes are reminiscent of Sāmarrā. The painting is elaborate, and reserve patterns are extremely common, giving many of the plates an appearance like basketry. The style of decoration is closest to that of Susiana A, where many of the patterns are also matched. As the Eridu culture arrived at the site fully fledged,² its origins must be sought elsewhere, probably in Khūzistān or the highlands above. The Eridu culture developed locally, it would seem, into that of Ḥajji Muḥammad,³ perhaps with some further reinforcements from Susiana, for it is known to underlie a good number of Sumerian sites, such as Ur, Warka and Nippur. It spread north to the area of Kish, where the village site of Ras el-'Amiya marks its northernmost limit.⁴ In short the Ḥajji Muḥammad culture is spread throughout the land of Sumer, is closely related to Susiana B, and is even known from Kūzaragān up the Saimarreh river in southern Luristān.

At the type site, Qal'at Ḥajji Muḥammad near Warka,⁵ and at Ras el-'Amiya remains of buildings discovered are unimpressive, but at Eridu monumental temple architecture appears in levels IX–XI,⁶ towards the middle of the period, but not in the earlier levels (XIV–XII). These mud-brick temples set on solid platforms with sloping faces approached by ramps are the prototypes for all later Mesopotamian temples placed on a zikkurraṭ. Their recessed façades derive evidently from the buttressed

¹ §VIII, 2, 124, pls. III, x.

² §VIII, 2, 125.

³ §VIII, 2, pl. III.

⁴ §VIII, 4 *passim*.

⁵ §VIII, 5 *passim*.

⁶ §VIII, 2, 119 f., pl. VI.

but thin walls of these early temples, which in turn go back to the simple shrines of the Eridu period. The Ḥajji Muḥammad temples of Eridu XI and IX consist of a long room with an altar at one end, surrounded by other rectangular rooms, one of which contains an offering-table. The main façades of the temples are deeply recessed, and there may have been several entrances, the main one lying perhaps in the narrow side, facing the altar. Towards the end of the period, the more solidly built and much larger temple VIII¹ shows the standard plan with the offering-table placed in line with the altar and directly behind the double entrance.

Considerable continuity between Eridu and Ḥajji Muḥammad phases is indicated by the shapes of the pottery and much of the patterned design, which continues a close style and reserve patterns. Glossy paint produced by firing is equally characteristic even if the tones change from the earlier chocolate to a green, dark mauve, or bright red colour. Carinated bowls, jars with internal rim ledge pierced by four holes, beakers, etc.² continue to be made.³ Vertical zigzag patterns resemble basketry, petalled rosettes occupy the centre of bowls,⁴ and geometric ornament⁵ still prevails, though an occasional bucranium makes its appearance. Close contact is maintained with Susiana B, and even with regions farther afield in the Iranian foothills. Clay 'nails', or bulls' horns, and clay sickles make their first appearance, probably as votive offerings.⁵

Mixed farming formed the economic basis of this culture: bread-ovens are common at Ras el-'Amiya and bones of domestic cattle, sheep and goat were found there. At Eridu, the Ḥajji Muḥammad pottery occurs from level XIV–VIII, but in the latest layers a new style of pottery makes its first appearance in force,⁶ that of 'Ubaid. Very small but elaborately decorated egg-shell bowls, painted in black on red in level IX, and in purple brown on a cream slip in VIII, still show close-style patterning or negative designs, unmistakably Iranian in character.⁷ Tortoise-shaped vessels with reserve patterns first occur in level VIII,⁸ together with other typical 'Ubaid wares, marking in many respects the beginning of a new period. The changes are gradual and it is evident that 'Ubaid developed out of Ḥajji Muḥammad

¹ § VIII, 2, 119, pl. vi.

² § VIII, 2, pl. iii; § I, 2, fig. 44; § I, 1, fig. 40*k-m*.

³ § VIII, 5, pl. 22*d*.

⁴ § VIII, 5, pl. 25*e*.

⁵ § I, 2, fig. 45; § VIII, 2, pl. x top.

⁶ § VIII, 2, pl. iii.

⁷ § VIII, 2, 123, pls. iii, vii.

⁸ § VIII, 2, 123, pls. iii, vii.

just as the latter is derived from Eridu. This continuity of cultural evolution has led certain scholars¹ to simplify the sequence into 'Ubaid 1-4, Eridu being 'Ubaid 1, Ḥajji Muḥammad 'Ubaid 2, etc., against the better judgement of the excavators. As it tends to obscure the links of these two early cultures with Susiana and favours the theory of autochthonous development (which can no longer be maintained, in view of the recent discoveries at Ali-Kush and Tepe Sabz), the alternative system may have to be rejected.

There is a more important implication of the cultural continuity of southern Mesopotamia from the Eridu to the 'Ubaid period. In spite of the spread of a new pottery during the Uruk period, architectural traditions show the persistence of the old pattern of culture into the Uruk and Jamdat Naṣr periods, when the first glimpses of literacy identify the people of south Mesopotamia as the Sumerians. Although it was once believed that the Sumerians made their entry into Sumer from some highland area only in the Uruk period, scholars now tend to agree² that they were there before, at least during the 'Ubaid period; and, as 'Ubaid is the cultural culmination of two previous phases of development, Ḥajji Muḥammad and Eridu, it would be difficult to deny that the Sumerians were the first settlers of lower Mesopotamia. The discoveries of Seton Lloyd and Fuad Safar have thus traced the beginnings of Sumerian civilization back to the middle of the sixth millennium B.C. in the alluvial plain of ancient Sumer. For the next five millennia these people were able to dominate, at least culturally, the development of civilization in the land of the Twin Rivers and contribute substantially to the cultural heritage of the ancient Near East. But the alluvial plain of southern Mesopotamia was not the area where the first steps were taken towards the development of agriculture and stock-breeding, and only the development of efficient irrigation systems made agriculture possible. If the earliest inhabitants of Eridu were Sumerians, as we also believe, then it must be accepted that they made their homes in the plain only after having mastered irrigation techniques in their former abodes at the foot of the Zagros mountains, probably in Khūzistān. Heirs of nearly a thousand years in Iran of simple village life, of primitive agriculture, herding and hunting and the production of pottery, they were at last fully equipped to deal with a new and challenging environment. Sheltered from invasion by the lakes and marshes they were gradually able to develop a civilization that was to have

¹ §VIII, 3, 32 ff.

² §VII, 3, 32 ff.

few equals. Throughout their long history, connexions between the states of Sumer and Elam, even if hostile, remained as close as they had been in that early dawn of civilization when they shared the great flat lands beyond where shimmered the snow-caps of the Zagros mountains, their homeland.

IX. THE IRANIAN PLATEAU

Present evidence would suggest that pottery was first invented in Iran during the second half of the seventh millennium, perhaps soon after 6500 B.C., and was very soon decorated with painted designs. The centre of this development seems to have been the central Zagros (the region of Tepe Gūrān and Tepe Sarāb), and from there it spread both southward to Khūzistān (Muḥammad Ja'far phase) and north-westward to Jarmo. Recent discoveries in southern Turkmenia have revealed a culture that preceded Anau (IA), the Jeitun culture which also has both painted and unpainted pottery, perhaps soon after 6000 B.C.

On the Iranian plateau, east of the Zagros range, painted-pottery cultures have been found which were perhaps contemporary with those of Hassūnah and Sāmarrā in northern Iraq. These are situated in the Urmia basin (Ḥajji Fīrūz), in the regions of Kāshān, Sahveh and Shahriyār, west of Tihrān (Tepe Sialk, I and II), and perhaps as far east as Tepe Hisar, near Dāmghān. In Fars, the Tell Mishgī and Tepe Jarreh B cultures may conceivably date from the same period.¹

Apart from pottery, very little indeed is known about these cultures. At Ḥajji Fīrūz,² south of Ḥasanlu, and at Yanik Tepe,³ west of Tabrīz, remains of houses were found, built of packed mud, with rooms of rectangular plan set around open courtyards which contained open hearths and large storage vessels. At Ḥajji Fīrūz at least six superimposed building levels were found and carbon-14 dates were obtained from a burnt village, the second from the top, dated to 5152 B.C., and from the sixth level, dated to 5537 B.C. Earlier levels are present, but they lie below the water-table; at Yanik Tepe these levels contained only unpainted pottery. During the burning of Ḥajji Fīrūz II massacres had taken place and the victims were buried by the survivors in three mass graves containing twenty-eight individuals.⁴ Red ochre was sprinkled over the dead, who were accompanied by

¹ §I, 1, 74; §I, 2, fig. 18.

³ §IX, 2, 55 ff.

² §IX, 6, 707, fig. 9.

⁴ §IX, 6, 707, fig. 11.

much pottery, both plain and painted, polished celts and flint blades. The pottery of this culture is simple, straw-tempered and poorly fired; the plain wares show few shapes and the painted wares are decorated in red or a fugitive pink paint on a cream surface. Designs are simple, unsophisticated and purely geometric. Plain bowls and deep biconical bowls or jars are characteristic.¹ The amount of painted pottery at Yanik Tepe farther north is much smaller and looks as if it were fading out northwards. With pottery, stone bowls still occur, as well as alabaster bracelets and figurines in the tradition of Tepe Sarāb, Tepe Gūrān, Jarmo and Tell Shemshāra.

Architecturally, the buildings of the following 'Dalme culture'² in Azarbāyjān show no marked advance, but the pottery is a very accomplished product. Known only from the Urmia region, its origin is obscure, but it still retains the biconical deep bowls or jars, which are now coated with a maroon slip on the inside, whereas the outside is decorated in a purplish black paint on a cream burnished surface. Patterns are elaborate and cover the entire pot. They may represent a development of the earlier Ḥajji Fīrūz ware: hatched triangles and lozenges are still common, but zigzag bands in reserve, rows of solid triangles and multiple chevrons are now also used.³ All patterns are still geometric; and animal designs, so beloved in other parts of Iran, are conspicuous by their absence. Jars, bowls and beakers are the most common shapes, and monochrome plain wares also occur; heavy straw-tempering is characteristic, as in most Iranian wares. The other aspects of the culture are less well known; weaving and spinning are attested by whorls and loom-weights, and the patterns on the pottery may have been inspired by textiles. For tools local chert was more frequently used than imported obsidian. Metal is not yet reported. A carbon-14 date of 4216 B.C. was obtained for this period, which may be roughly contemporary with the Halaf culture further west.

Overlying the deposits with painted ware were others with a totally new type of unpainted pottery the surface of which is decorated by impressions made with tubes, combs, fingers and sticks; this is known as Dalme impressed ware.⁴ This pottery has a much wider distribution, from Yanik Tepe and Dalme in Azarbāyjān to Tepe Syāhbid in the plain of Kirmānshāh (with a carbon-14 date of 4039 B.C.) and the region of Khurramābād, where its relation to the Giyān V culture is still unknown. In

¹ §IX, 6, 707, figs. 6 and 2.

² §IX, 6 707 f., fig. 10.

³ §IX, 6, 707, figs. 3 ff.; §IX, 7; §I, 1, fig. 43.

⁴ §IX, 6, 708; I, fig. 42.

Azarbāyjān this 'barbarous' pottery marks an interruption in the sequence of painted pottery and is in turn succeeded by Pisdeli painted ware of the fourth millennium, which, at least in its repertoire of patterns, is under the influence of northern 'Ubaid.

The Sialk culture. Tepe Sialk, the type site of this culture, lies near Kāshān and is a medium-sized mound covering six acres. The Sialk I deposits were 12 m. thick, those of Sialk II were 7 m., yet the excavators in the thirties of this century, unfamiliar with *pisé* (in Sialk I) and mud-brick (in II), failed to distinguish a single building level in this deposit of 60 ft. depth. This by itself suggests that buildings lacked stone foundations, which would be difficult to miss. Architectural remains were likewise not detected at Cheshme-i-Ali (Ray), Masreh, and Kara Tepe, 20 miles west of Tih-rān (where only ovens and a sewer are mentioned),¹ yet these sites have produced very fine Sialk II pottery.² One might assume that the buildings of this culture, which urgently demands a modern excavation, did not differ much from those of the upper levels of Tepe Gūrān or of the Ḥajji Fīrūz culture farther north. Nothing certain is known about the economy except that mixed farming must have been practised; sheep and goats may have been domesticated, sling-stones suggest hunting, and well-carved bone sickles³ from Sialk suggest agriculture, but the nature of the crops is not known. New is the use of hammered copper in Sialk I, substrata 3 and 4, in the form of a round awl, two pins with biconical heads, a needle with a forged eye and a spiral.⁴ The material was probably native copper from the Anarak (Talmessi mine) in the Kāshān district, not far from Sialk. Annealing is first attested in a pin from Sialk I or II, at which period tanged awls, buttons and bracelets were also made in copper. By period III, probably contemporary with Halaf and 'Ubaid, large copper pins, punches and cast axes were produced.⁵ Like Anatolia, the metal-bearing highlands of Iran offer evidence for much earlier metallurgy than the Mesopotamian plain.

The only material which is relatively plentiful is pottery, both plain and painted, and it is this which has made this culture famous. The pottery of Sialk I⁶ is a brownish ware, covered with a red or cream slip, decorated in matt black, with geometric ornament possibly imitating, like the shapes, sophisticated basketry. Deep bowls, pedestalled vessels and pot-stands are the

¹ §IX, 1, 30 f.

³ §IX, 3, pls. VII, VIII, 1-3.

⁵ §IX, 5 ff.

² §IX, 1, 27 ff.; §I, 2, pl. IV, 1, 2, 5.

⁴ §IX, 5, 4.

⁶ §IX, 3, pls. IV ff., xxxviii f.

main shapes. Red and black monochrome wares are also found, the first having links with the upper layers of Tepe Gūrān, which produces a subsequent date for earliest Sialk. The pottery of Sialk I, it seems, reached the area east of the Kopet Dağ, the south-eastern extension of the Elburz mountains, giving birth, perhaps in the wake of a wave of immigrants, to the Anau I A culture.

The Sialk II pottery¹ is evidently a development of the previous fabrics and is decorated in matt black on red. The interiors of the vessels are covered likewise with a red slip and, as before, the ornament is applied either to the exterior or interior or to both. Geometric ornament still prevails, but naturalistic designs such as goats, and long-necked animals (asses) make their first appearance. The quality of the pottery, frequently burnished, has made great advances. Sialk II is probably contemporary with Sāmarrā in the north Mesopotamian plain, and in Sāmarrā pottery many Iranian motifs appear, including naturalistically drawn goats, deer and other animals, unknown in the contemporary local Hassūnah pottery, and therefore probably derivative. Basketry designs are still there, in greater elegance, on deep-flaring bowls, carinated bowls or hole-mouthed jars similar to those of Ḥajji Firūz (and later Dalme). Pedestalled vessels develop into fruit-stands or stemmed goblets. Panelled decoration is now frequently applied instead of free-running design. An apparently unbroken development leads to Sialk III, roughly contemporary with Halaf (III, 1-3) and then 'Ubaid (III, 4-5) and Uruk (III, 6-7). Richly decorated goblets² and very deep bowls adorned with more naturalistic plant and animal motifs in black on cream, including birds and leopards, mark this period, paralleled further east in Tepe Hisar I A-C. In Sialk III, 4, contemporary with 'Ubaid, the potter's wheel appears.

Enough has been said to demonstrate the high potential of early cultures on the Iranian plateau, most of which are still inadequately known or published. Until much more is known about Iran, the measure of contact and the role of Iranian influence on early Mesopotamian developments can only be guessed, but even in the light of recent discoveries, however limited, it appears to have been great, if not decisive. The role of the highland zone in the development of early cultures in the Near East has been greatly underestimated, it would seem, and just as recent discoveries in Anatolia have shown that this country played a decisive part in the transmitting of culture to

¹ §IX, 1, 27 ff.; 1, fig. 46; §IX, 3, pls. ix, xlv f.

² §I, 1, fig. 45.

south-eastern Europe and probably also to north Syria, so Iran, its highland neighbour, similarly contributed to, if it did not initially stimulate, the development of culture in Iraq on its western flank and—a fact often forgotten or minimized—in the east as well. Soviet research into the origins and developments of the so-called Anau culture of southern Turkmenia has in the last decade made spectacular progress, and the modern methods employed have resulted in the reconstruction of a far more complete picture of cultural development in this important area, long regarded as a cultural backwater, than is available for any culture on the Iranian plateau. Nothing shows more clearly that the initial stimulus for this development on its eastern marches came from Iran itself, and it is hoped that in the near future excavations will be carried out in Khurāsān, which is virtually unexplored.

X. SOUTHERN TURKESTAN

A decade ago this remote region was usually treated as a poor orphan among the family of early Near Eastern cultures, but the recent discoveries are such that it would be invidious to omit it from this survey. The area is bordered by the Caspian Sea, the towering mountain ranges of Elburz, Kopet Dağ and Hindu Kush towards the west and south and forms a strip of fertile and cultivable soil edged by the sands of the Kara Kum desert. Geographically this is the beginning of central Asia, open to invasion from north and east and a boundary between the conflicting interests of cultivator and nomad. There is a tendency to overestimate the importance of time-lags where long distances are concerned, but it has recently been pointed out that the idea of agriculture could easily have spread: even a slow walker doing ten miles a day can travel from central Anatolia to central Afghanistan in about six months!¹ Even if it took a century, the archaeologist would be unable to notice it with the means at his disposal. We must therefore be prepared for surprises and keep an open mind.

The prelude to settled life is similar to that in regions further west. At Ghār-i-Kamarband (Belt Cave)² and Ghār-i-Hūtū³ on the Iranian part of the Caspian shore, at Damdam Cheshme and Jebel Cave⁴ at the foot of the Balkan hills east of the Caspian in Turkmenia and at Ghār-i-Mār (Snake Cave) on the Balkh river near

¹ §x, 2, 640.

³ Unpublished.

² §x, 1, 31 f., 49 ff.

⁴ §x, 6, 203 f.; §x, 5, 12, figs. 1, 2.

Akkopruk in the northern foothills of the Hindu Kush,¹ a series of 'mesolithic' and both 'aceramic' and 'ceramic neolithic' cultures has been found in recent years. This shows that the hill and mountain zones bordering the fertile but narrow plains of South Turkestan were inhabited by hunters of gazelle, ox, wild sheep and goat, by fishermen and collectors of wild barley and wheat, which, according to two radiocarbon dates (7140 ± 1400 from Belt Cave and 6985 ± 100 from Snake Cave), was well established by c. 7000 B.C. Sickles blades, though rare, are attested at the latter site, together with long blades, burins and end scrapers, but no geometric microliths, which are a characteristic feature² of the east Caspian sites and the Jeitun culture of the Ashkhābād region in the early sixth millennium.

Whereas the affinities of the neolithic wares (c. 6000 B.C.?), both plain and painted, found in the Belt and Hotu caves are not yet clear, developments in south Turkmenia seem to have been twofold: in the Ashkhābād region, the earliest farmers of the Jeitun culture had both plain and painted pottery, but further east painted pottery was not made. At Ghār-i-Mār, the neolithic development shows first a possibly aceramic phase with numerous sickle blades, blades, side scrapers on blades, points, burins etc., dated to the middle of the sixth millennium (5510 ± 100), followed by one in which both soft-baked plain ware and a fine ware with zigzag incision is produced. Sickles blades are common; and carbonized plant remains, not yet analysed, may show agriculture. Cattle, sheep and goat were domesticated by 5314 ± 100 B.C. This important evidence shows that far to the east of the Jeitun culture mixed farming was probably in progress well before the end of the sixth millennium. The incised pottery has similarities to that found east and west of the Oxus up to the Aral Sea, the Kelteminar complex of cultures which S. P. Tolstov had tentatively dated to c. 5000 B.C. It has recently been shown that the decoration of this pottery may have been influenced by the painted wares of Namazga II³ (roughly contemporary with Hisar I A-B, Sialk III, 1-3, and Halaf, which began c. 5300 B.C.). Incidentally, this is also the date for the earliest penetration of pottery into south-eastern Europe (Starčevo culture). This phenomenal spread of Near Eastern culture extending from the plains of Hungary in the west to the Aral Sea, Bokhara and the Hindu Kush in the east shows the success of the neolithic economic evolution and goes far to explain how exotic products such as turquoise from the Nishāpūr

¹ §x, 2, 638 ff.

² §x, 6, 203 ff., fig. 2.

³ §x, 4, pl. xix.

region of eastern Iran or lapis lazuli from Badakhshān near the sources of the Oxus should appear in such early contexts as Ali-Kush (turquoise before 6000 B.C.¹) and Tepe Gawra (lapis lazuli in 'Ubaid period), if correctly identified. Trade evidently preceded the introduction of the new economy from the Near East.

A considerable time-lag is involved between the establishment of the first farming communities of the Jeitun culture and the Kelteminar culture. The former is considerably older, and might have begun in c. 6000 B.C.

The Jeitun culture. The site is a small mound covering 4000 sq. m., 30 km. north-east of Ashkhābād. Three fifths of this open village, with single detached houses of standard square plan, were explored.² Nineteen such houses were excavated, usually 20–35 m.² in size, and each with a small yard and adjoining farm and storage rooms. The walls were built of *pisé* and were no doubt plastered. The floors were covered with thick lime plaster, sometimes painted a reddish brown as in Tepe Gūrān, Ali-Kush, Jericho, Çatal Hüyük, aceramic Hacilar and Menteşe. In the centre of one of the walls was a large square hearth, with an adjoining bin in one of the corners; opposite the hearth was a small projection in the wall with a niche low down near the floor, painted red-brown or black. The position of the doorway giving entrance from courtyard or alley was most often placed near the position of the bin.³ The open planning of the villages of Jeitun and Choban Tepe is reminiscent of the Early Neolithic villages of Nea Nikomedeia and Karanovo I in Macedonia and Bulgaria, and different from the Near Eastern agglutinative buildings of aceramic Hacilar, Çatal Hüyük or Hassūnah. The economy of Jeitun was mixed farming; barley and wheat impressions occur in the *pisé*. About 300 bone sickles⁴ with flint blades have been found (similar to those of Sialk I). Hunting provided the inhabitants with most of their meat, the quarry consisting of bezoar, goat, *ovis orientalis* and *gazella subgutturosa*; only a small percentage of sheep and goats shows signs of domestication. The flint industry, besides producing numerous sickle blades, has knife blades, borers, notched and trimmed blades, and still a strong microlithic element comprising arrowheads, lunates, triangles, trapezoids, micro-scrapers, etc., which are presumably derived from the similar equipment of proto-neolithic hunters in the area east of the Caspian (Jebel Cave, etc.). Other finds, such as conical terracotta objects, have parallels in the Belt Cave and

¹ § III, 3, 106.

² § x, 6, 204 ff.; § x, 5, figs. 3, 4. See Fig. 22 (a).

³ § x, 6, fig. 2; § x, 5, fig. 5.

⁴ § x, 5, fig. 18.

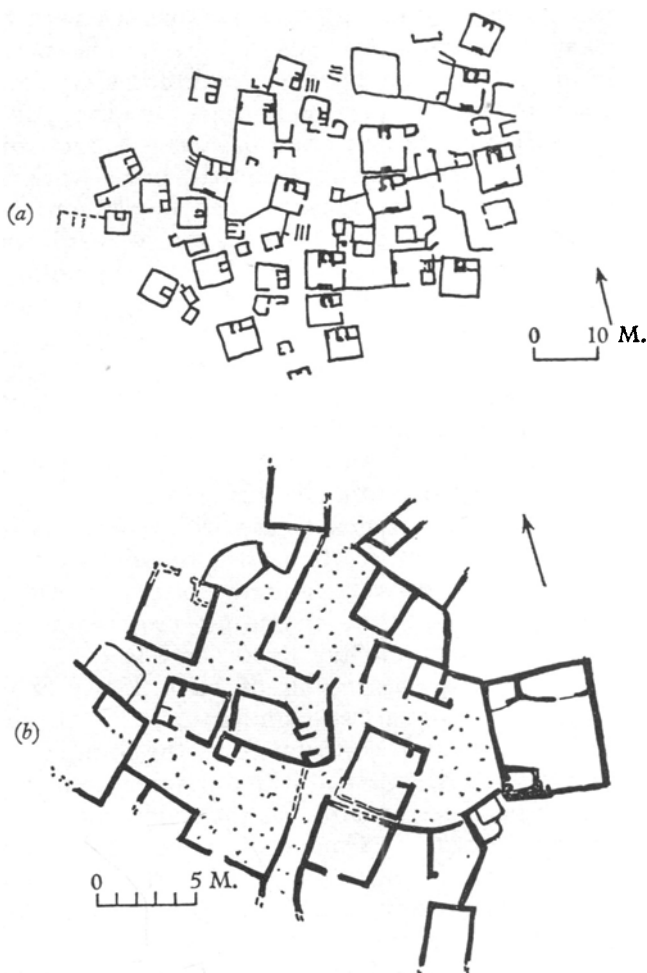


Fig. 22. (a) Jeitun: plan of the village; (b) Dashliji Tepe: plan of the village.
After V. M. Masson, *Srednaya Aziya i drevniye vostok*, figs. 3 and 21.

Sialk I.¹ The intermediate stages between these proto-neolithic hunting cultures and the fully settled farming culture of Jeitun have not yet been found, but attention should be drawn to a number of parallels with cultures farther west. *Pisé* architecture, rectangular plan, red plaster floors, straight sickles and also the hand-made straw-tempered plain and red-painted pottery have clear relations in the west. Clay-lined storage pits are comparable to those of Hassūnah, and storage vessels of Jeitun and

¹ §x, 5, figs. 5, 6.

later Anau IA¹ are reminiscent of Hassūnah IA with the same biconical shapes tapering towards the base. The patterns on painted Jeitun pottery are extremely simple; wavy lines, solid triangles, rows of brackets, parallel lines painted in reddish brown on cream perhaps imitate patterned baskets. Apart from cylindrical conical jars, there are simple bowls, bowls with S-shaped profiles and, in plain ware, square 'salad bowls' on flat bases. Incised decoration is unknown. Metal, too, was still unknown; polished axes, grooved polishers, awls, needles, points, beads of bone are common. Shovels are made from shoulder-blades. Spindle-whorls, indicative of weaving, amulets, including (imported?) cowries, and clay figurines of humans and animals complete the typically neolithic inventory of the Jeitun culture, which, in spite of numerous resemblances to western cultures, preserves a marked individuality. Of the burial habits nothing is known, the dead being presumably buried outside the settlement.

The Anau IA culture. The next phase of development is seen in the assemblage of Anau IA, about which, unfortunately, little is known. The black-on-red painted pottery shows a much richer repertory of patterns, including cross-hatched bands, solid triangles, chevrons and bordered wavy lines. Parallels can be established with the beginning of Sialk I, I,² Sahveh and Cheshme-i-Ali IA. Shapes are still similar to Jeitun. Perhaps new elements from central Iran contributed to the foundation of this culture c. 5700 B.C. Metal was still unknown, but appears in Anau IB, which has been renamed as the following.

The Namazga I culture. Contact with central Iran (Sialk I, 3-4) was maintained during this period³ and is reflected in the patterns of the dark-brown-on-red or white painted pottery, decorated with simple designs of ever increasing variety. Other indirect parallels point to Hassūnah III-V and contemporary Sāmarrā.⁴ The pottery developed out of that of the earlier Anau IA and Jeitun phases and shapes remain related.⁵ Of the two varieties, that on a white ground is now the more common. Patterns are still strongly geometric, but include linear ornament and the first appearance of naturalistically rendered goats (as in Sialk II).⁶

At Anau itself and especially at Yassa Tepe wall-paintings⁷ have been discovered, probably in shrines, which imitate woven textiles, patterned in squares and triangles, plain or bordered in

¹ §1, 2, fig. 16, 1, 4; §x, 5, fig. 20.

² §x, 3, 26, fig. 6, pl. III, 1-12.

³ §x, 3, 26, fig. 8.

⁴ §x, 3, 26, fig. 9.

⁵ §x, 3, figs. 2, 3.

⁶ §x, 5, fig. 20.

⁷ §x, 3, pls. II, IV, 1-3, XI.

red-brown, black, red, pink and white colours, often in several superimposed layers of paint. The patterns are closely related to those found on the pottery. A further feature of this culture are steatopygous clay figures of Mother Goddess type, frequently decorated with white paint,¹ as well as those of animals such as bulls and goats.

It is possible to trace an expansion of population² from the centre of this area around Ashkhābād to Artyk and Kashka, then to the eastern group around Sarakhs (occupied early in the period with 6–7 m. of occupation material), on to the Göksür oasis on the Tejen river towards the late phase of the period (2–2.5 m. of deposits). Here excavations on the site of Dashliji³ have revealed three superimposed settlements, now fully excavated, that have yielded the best architectural remains of the period (see Fig. 22 (b)). The architecture is still very much like that of Jeitun and shows the same open plan with square houses, each with a small hearth and a raised platform on the opposite side of the room. Houses are still surrounded by various storage buildings and open courts. New, however, is the use of mud-brick which appears in two sizes (46–48 and 36–38 × 24 × 10 cm.).⁴ Other innovations of the period are the use of copper knives and awls,⁵ twisted beads and pins with semi-spherical heads, decorated spindle-whorls, paintings of textiles, and the increased production of two-row barley, which is thirty times as common as wheat (*Triticum vulgare*).⁶ Though wild game was still hunted, cattle, goat, sheep and pig were now domesticated.⁷ A carbon-14 date from Tilkintepe,⁸ recalculated with the higher half-life, gives 4850 ± 110 for the second phase of Namazga I, which seems a little low in view of its typological comparisons with later Sialk I and II, late Hassūnah and Sāmarrā, which end c. 5300 B.C. according to recent carbon-14 dates.

The Namazga II culture. The next period in succession, Namazga II, was a long one, spanning the millennium between approximately 5300 and 4300 B.C. It is roughly contemporary with Sialk III, 1–3, Hisar IA–B in Iran, and Halaf in Mesopotamia. It can be divided into two periods: Early Namazga II (and Anau II, Kara Tepe 3, 4) and Late Namazga II (and Kara Tepe I B–II), each with its own characteristic pottery.⁹ More-

¹ §x, 5, fig. 20.

³ §x, 3, pl. xvii; §x, 5, fig. 21.

⁵ §x, 5, fig. 20.

⁷ *Ibid.*

⁹ §x, 6, 207 f.; §x, 4, pls. 1 f.

² §x, 3, 26, fig. 5.

⁴ §x, 5, 131.

⁶ §x, 3, 26.

⁸ §x, 3, 8.

over, marked differences now prevailed in the Göksür oasis, which produced a most interesting variant and, in Early Namazga II, unusual architecture. Early Namazga II saw a number of innovations; as at Sialk III, metallurgy made steady progress¹ and flat copper spearheads and axes now appear. Whereas barley is still the main crop sown, a new hybrid wheat, Bread wheat (*Triticum aestivum*),² appears in the Göksür oasis, and large and more naturalistically modelled figurines of Mother Goddess type³ now prevail. Polychrome pottery,⁴ decorated in black and red on an orange-cream base, with new shapes, such as cups, wide bowls and necked jars, replaces the simpler painted wares of the previous period. Besides geometric motifs, stylized human figures and goats are found.

In the Göksür oasis, however, the pottery is different; the elaborately decorated polychrome ware is rare and probably imported. Rare too is pottery decorated with oblique hatched lozenges (as in Sialk II). Most common is the Yalangach ware, less sophisticated in shape, derived from the Dashliji ware of the previous period and decorated with four parallel lines below the rim or with rows of triangles pendent from the rim of large pots.⁵ Simple as the pottery may be, the architecture of the oasis in this early phase, locally known as the Yalangach phase, is remarkable. Yalangach Tepe⁶ and Mullali Tepe⁷ are fortified with a wall, 0.5–1 m. thick, provided with round tower-like houses, regularly spaced, and with diameters varying from 3.5 to 5 m. Hearths found in these rooms show that they were occupied as dwellings. Within the circuit of the walls are houses, roughly square in plan, with a rectangular hearth in one corner and irregularly adjoining store-rooms, a plan reminiscent of Dashliji. There are also a few round houses within the walls in the first settlement of Yalangach and at Mullali. In the second and later settlement of Yalangach the spacing of houses is different and some are built in rows with party walls⁸—the beginning of cellular planning which was to lead to the many-roomed houses of the Late Namazga II period. Also there are now differences in size, and larger, but still one-roomed, houses occur side by side with smaller ones.

Yalangach and Mullali with their round houses remind one of the round buildings of the contemporary Halaf culture, but they differ in lacking an ante-room and may here have served as towers

¹ § x, 5, fig. 24; § x, 4, pl. x.

³ § x, 5, fig. 24; § x, 6, fig. 3.

⁵ § x, 5, fig. 24; § x, 4, pl. 11.

⁷ § x, 5, figs. 22, 60. See fig. 4(a).

² § x, 5, 143.

⁴ § x, 4, pls. III f.

⁶ § x, 5, fig. 58.

⁸ § x, 5, fig. 59.

in the fortifications which were no doubt built as a defence against marauding bands of nomads. As we have already seen, the Namazga II culture influenced the design on pottery of the Kelteminar culture and it may have been against bands of these people, less sedentary than their neighbours, that the settlements in the Göksür oasis were fortified. However that may be, there is a clean break in the pottery tradition in the oasis between the early Namazga II (Yalangach) and the later (or Göksür) period, and a temporary intrusion of unpainted red-burnished, red-slipped and grey wares, the origins of which are unknown.¹

This is followed by the gaily painted Göksür ware,² a bichrome ware in black and red decoration with crosses, half crosses, serrated lines, and geometrically drawn animals, patterns suggesting the influence of textile and kilim manufacture. The technique of decoration and the new repertoire of shapes first found in the west in Early Namazga II have now extended to the oasis. At the same time the polychrome ware disappears in the west and its place is taken by a brown-on-yellow painted ware, but it has inherited the same old patterns and shapes.³ Both areas are united by a new development in building, that of rows of large many-roomed houses built on a unified plan along narrow streets.⁴ Hearths are now placed in the centre of a room and no longer in the corner. The type site of this period is Göksür I, which, covering 22 acres, is the largest site in the oasis and a small town. On the edge of the settlement a cemetery of brick-built tombs was found.⁵ These are of circular or rectangular plan, covered with a false vault of mud-brick. They were family graves and contained several burials. This, too, is an innovation of the period and a development of the burials in simple pits, sometimes lined with brick, that were found in the earlier cultures. Naturalistic clay figurines are finer and smaller than those made in the Yalangach period.⁶

The Late Namazga II period, then, saw the beginnings of urban development along lines familiar in other parts of the Near East, at a period which, it is estimated, is roughly contemporary with the end of the Halaf culture and the beginning of 'Ubaid in Mesopotamia. Its full realization, however, belongs to the Namazga III period, the equivalent of 'Ubaid and Uruk, of Hisar Ic and IIa and Sialk III, 4-7, as is indicated by numerous analogies and resemblances. New physical types

¹ §x, 6, 210.

³ §x, 6, 208.

⁶ §x, 5, fig. 25.

² §x, 5, fig. 25; §x, 4, pl. II.

⁴ §x, 5, fig. 61.

⁵ §x, 5, fig. 25.

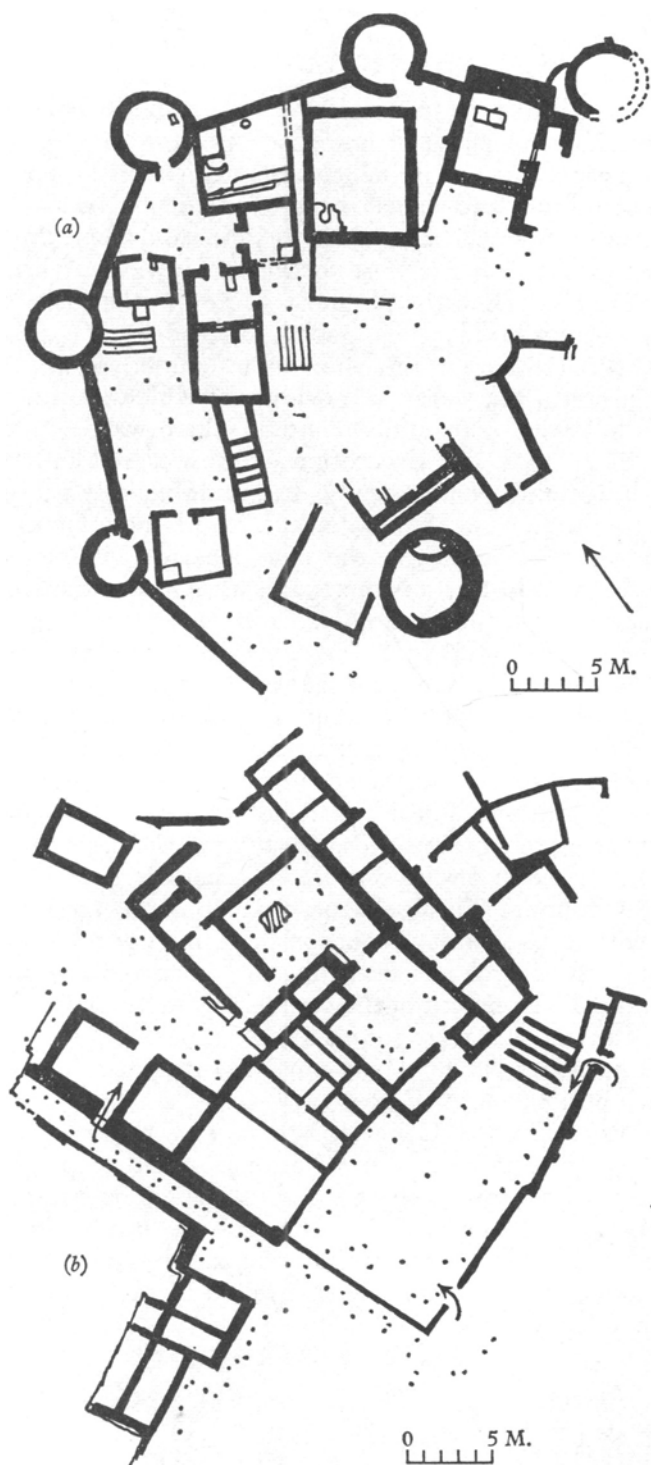


Fig. 23. (a) Mullali Tepe: portion of the settlement; (b) Kara Tepe: large house.
 After V. M. Masson, *Srednaya Aziya i drevniye vostok*, figs. 60 and 62.

appear as at Sialk¹ and, although they are soon assimilated by the old population, leave their mark in a different orientation in the lay-out of the dead. Pottery and architecture show the persistence of local traditions. Influenced by the Göksür style, richly patterned deep bowls painted in dark brown on greenish white or red surface show geometric patterns of textile origin as well as mountain goats, solar circles, spotted leopards, cows and eagles, especially at Kara Tepe.² The architectural lay-out of Kara Tepe I B³ shows a large square from which streets run out separating large houses with as many as fifteen to twenty rooms all arranged around a courtyard. Rooms are provided with central hearths made of pots without a base sunk in the floor; kitchens are situated in the courtyard and small narrow rooms serve as storage chambers. A new use is found for stone: there are stone seals, stone vessels, stone sculptures, including a statue of a bull.⁴ Clay figurines, elaborately modelled show the figure of the Mother Goddess standing or holding a child,⁵ exact counterparts to the well-known 'lizard-faced' 'Ubaid figures from Ur and Eridu.⁶

In view of the many resemblances between this period, that of 'Ubaid and Uruk, that of Namazga IV (and Hapus Tepe in the Göksür oasis) as compared with Sialk IV and Jamdat Naşr, the single carbon-14 date⁷ from Kara Tepe I B of 2900 ± 220 B.C., said to come from an early phase of Namazga III, is unacceptable, possibly because the sample was contaminated.

What these new excavations have established beyond doubt is that the Anau region, to use the long familiar term, did not represent a peripheral backwater compared with the rest of the Near East, but a centre of early and vigorous individuality, which developed a series of cultures by no means inferior to Syria and Palestine, or even Mesopotamia. Behind this development must lie the unknown potential of eastern Iran.

¹ §x, 6, 212.

³ §x, 5, fig. 62. See Fig. 23 (δ).

⁵ §x, 5, figs. 27, 28.

⁷ §x, 4, 7.

² §x, 6, pls. xxvi f.; §x, 5, fig. 26.

⁴ §x, 5, fig. 29.

⁶ §x, 5, fig. 79.

CHAPTER VII (b)

ANATOLIA BEFORE c. 4000 B.C.

XI. GEOGRAPHICAL INTRODUCTION

THE term Anatolia is used throughout this division to describe Turkey in Asia, including Cilicia, but excluding the regions east of the Amanus and south of the eastern Taurus, the cultures of which are evidently more related to those of Syria and northern Mesopotamia.¹ This crescent of mountains stretching without a break from the Mediterranean to the western borders of Persia neatly defines the southern edge of Anatolia, even though it never presented an impassable barrier. It often formed a cultural frontier, and there was sufficient traffic through the passes to make it act as a political frontier as well. Cilicia, or rather the plain of Cilicia, is often singled out as a more or less independent unit on account of a similar geographical position south of the Taurus, but recent research shows conclusively that, although it maintained contacts with both the Anatolian plateau and north Syria, it should both archaeologically and philologically be considered a part of Anatolia.

To understand the development of Anatolian cultures and civilization, a geographical knowledge of the country is a prerequisite. Three main factors must be emphasized: its size, its mountainous character, and its forests. Superimposed on a map of Europe Anatolia extends from Calais to the Russian frontier, from Denmark to Rome or from Amsterdam to Gibraltar. Anatolia is a highland country, most of it over 2000 ft. high and gradually rising to an altitude of 5000–6000 ft. in the east. Prehistoric Anatolia was mostly covered in forest and woodland and a great part of it still is so. Many of the now semi-arid and barren regions with a steppe climate are the result of man-made changes, overgrazing and deforestation, perhaps accelerated by a steady rise in winter temperatures since late Roman times.²

Completely enclosed by two parallel ranges of rugged mountains, the Taurus and the Pontic chains, all natural communications run from east to west. Both chains present precipitous cliffs

¹ Evidence of recent and unpublished surveys by Professor B. Alkim (Karasu valley), the author (Maraş region) and Mr C. A. Burney (Adiyaman-Besni region).

² §xi, 3.

along much of their course, and coastal plains are therefore few and far between, and of limited extent, with the single exception of the Cilician plain. Prehistoric occupation is found on the north coast only in the Samsun area and along the Rion valley in Colchis, where rivers running down from the high plateau have carved natural routes. Along the Mediterranean one finds the same situation. Neolithic remains are found in the Cilician plain and in the Calycadnus valley. Further west Neolithic and Early Bronze Age material occurs in cave sites north of Anı́talya, but Pamphylia, a forested piedmont area of the Taurus and not an alluvial plain, seems to have been shunned by prehistoric farmers. Nor is prehistoric occupation found along the Lycian or Carian coasts until the peninsula of Halicarnassus is reached.

The west coast, on the other hand, offers small and narrow plains favourable for early settlement and these communicate with the plateau behind through the river valleys of the Maeander, Hermus and Caicus. The Cayster, hemmed in between a wedge of Tmolus and Messogis can never have played a role in east-west communications, being accessible only from the west. In spite of recent exploration,¹ it is the only river valley of Western Anatolia where no prehistoric occupation is attested. Besides the Aegean coast road, only the natural route leading from Izmir through the plains of Manisa, Akhisar and Balıkesir to the Sea of Marmora was of any importance for north-south communication.

Numerous roads led from the high plateau to the west coast: of these the four principal must be mentioned. (*a*) The road leading from the plain of Eskişehir to the lowlands of Inegöl, continuing via Bursa and the Mysian Lakes along the north coast of the Troad to the Dardanelles, Thrace and Troy; (*b*) an alternative road leading from Afyon-Karahisar via Kütahya and Tavşanlı over the Domaniç Dağ to Inegöl; (*c*) a road leading down the Upper Maeander valley to the Lycus valley above Denizli and from there down the Maeander to the coast or through the Buldan gap into the Hermus valley, and finally (*d*) an alternative road from the Pisidian plateau around Burdur via Acipayam down to Denizli. That all these roads were in common use from the Neolithic period onward is shown by the presence of numerous prehistoric mounds along them and by the distribution of successive culture-provinces which do not stop at the plateau's edge. None of these roads would have presented any serious obstacles to movements or trade before the advent of wheeled traffic.²

¹ Mr D. H. French's survey, 1960.

² See §xi, 1, 32 ff., for a different, but unacceptable, view.

Communications on the high plateau are easy and greatly facilitated by many prominent mountains, visible a long way off. The great volcanoes of Erciyas, Hasan, Melendiz Dağ—active until the second millennium B.C.¹—and the snow-covered peaks of the Taurus, Sultan Dağ, Murad Dağ, and Mount Olympus (Ulu Dağ) are prominent landmarks. Anatolia is well watered and the main obstacles to traffic and trade were mountains and forests, with their wild animals and at times robber bands.

The presence of a strong nomadic element in prehistoric times, especially in the non-agricultural areas, may be assumed on modern analogy.² By reason of their seasonal migrations nomads are most efficient agents for the transmission of culture. Although nearly every settlement of pre-Iron Age Anatolia is found in areas suitable for agriculture or pasturage—and most often on alluvial soil—this does not mean that the hills and mountains were not inhabited. The absence of sites—and especially mounds—in such areas is understandable enough. Construction in wood, natural in the forested hills, does not as easily lead to the formation of mounds as the mud-brick architecture of the plains. On distribution maps the mountain areas present a blank, but as this is exactly the region which produced wood, stone, and metal, it is fairly certain that the mountains harboured some settled inhabitants in addition to nomads.

XII. 'NEOLITHIC' ANATOLIA

Even if the processes of the economic evolution from food-gathering to food-production cannot yet be studied in Anatolia in sufficient detail, it is evident from recent finds that the South Anatolian plateau was one of the centres where such developments took place in the eighth and seventh millennia B.C.

Throughout Anatolia developments were far from uniform and though post-glacial and microlithic industries have been found, for example, at Macuncay, north of Ankara and at Tekkeköy near Samsun on the Black Sea coast³ these are still isolated occurrences which demand further investigation, and more precise dating. More intensively explored is the south coast of Anatolia, especially the Antalya region and here a stratigraphic sequence can be established, apparently without a break, from

¹ According to Professor Necdet Egeran.

² §XI, 4, 186 ff. For a different opinion see §XI, 2, 30.

³ §XII, 5, 344.

Upper Palaeolithic to the beginning of the Neolithic c. 7000 B.C. The Upper Palaeolithic of Kara'in cave (Level II)¹ and Beldibi rock-shelter² (Level D) show blade industries on flint and chert (accompanied by geometric microliths at the former site), as well as *art mobilier*³ and rock engravings of bulls and stags.⁴ The final Upper Palaeolithic is probably represented by the strongly microlithic industry of Belbaşı⁵ which exhibits similarities to the Kebaran of Lebanon and Palestine. The third phase is represented by Beldibi (C and B),⁶ again with a microlithic element of backed blades, lunates, sickle-blades, bone harpoons, and so on, which shows resemblances to the Natufian, but also has tanged scrapers and tanged arrowheads of local origin. In the very top level of Beldibi⁷ a coarse burnished pottery makes its appearance, simple wall paintings may date from this period and at Kara'in obsidian blades are reported, both suggesting that contact was established with the settled Neolithic cultures of the Anatolian plateau, perhaps c. 7000 B.C. Apart from sporadic Neolithic sherds in most of the Pamphylian caves, there is no evidence for settled life in this area during the Neolithic, in strong contrast with the plain of Cilicia, where it is found at Mersin⁸ and Tarsus,⁹ Tirmil and no doubt numerous other sites. The reason for this difference is ecological; the alluvial plain has great agricultural potentialities, the rocky forest-covered piedmont zone of Antalya has not.

Evidence is steadily increasing to suggest that developments on the south Anatolian plateau followed a different course. The main reason is probably ecological; all the early sites on the plateau lie on alluvial ground in basins situated in intramontane valleys of the Taurus, such as Hacilar, Kızılkaya,¹⁰ Suberde¹¹ in the south-west, or bordering the Taurus, such as Çatal Hüyük in the Konya plain, a new site near Aksaray, Pınarbaşı, Iğdeli Çeşme, or Kumtepe Incesu,¹² around the then active volcanic region south and east of Aksaray, which is the source of abundant obsidian, widely used for the manufacture of tools and weapons. Exported to Syria and Palestine since late Natufian times, perhaps c. 8300 B.C. (Jericho 'Protoneolithic'), the obsidian trade enriched Neolithic Anatolia, and ensured steady contact with regions south of the Taurus, rich in tabular flint. A good assemblage of

¹ § XII, II, 41.

² § XII, 3, 151.

⁴ § XII, II, pe. xxxvii; § XII, 3, pls. II, xv and § XII, 24, 78 f.

⁵ § XII, 4, 253 ff.

⁷ § XII, 3, pl. IV.

⁹ § XII, 9, 65 ff.

¹¹ § XII, 2, 30.

³ § XII, II, pls. xxxv-xxxvi.

⁶ § XII, 3, 140 f., pls. I, xv.

⁸ § XII, 8, II ff.

¹⁰ § XII, 19, 166 f.

¹² § XII, 34, figs. 1-12; § XII, 31, 14.

Upper Palaeolithic has not yet been found in this region and the surface material from Avla Dağ,¹ which is mainly in obsidian, cannot yet be accurately dated, although it is probably post-glacial and definitely pre-Çatal Hüyük in date, in the absence of pottery and pressure-flaking. It may also precede in time the material of the new Aksaray site, which is typologically pre-Çatal Hüyük, and likewise aceramic. Microliths are unknown in any of these cultures, probably because obsidian was so abundant and could be found in large blocks, whereas on the south coast pebbles formed the raw material. In south-western Anatolia, Suberde and aceramic Hacilar² imported obsidian, but also made use of local chert nodules and small tools are therefore common, but regularly shaped geometric microliths are absent, in plateau tradition.

The earliest permanent settlements excavated are the villages of aceramic Suberde and Hacilar, both in south-western Anatolia, the first existing *c.* 6850 B.C. the second *c.* 7000 B.C. Whereas at Suberde the lower occupation layers have not yet revealed architectural remains, there is evidence for hut floors, a flint and obsidian blade industry without pressure-flaking,³ but including arrowheads, and the use of copper in the form of an awl. In the later layers mudbrick buildings with plaster floors and platforms make their appearance. Hunting is predominant, pig possibly domesticated, agriculture probable, but not certain.⁴ In a nearby cave (Kürtün İni) small black paintings⁵ show wild goat or ibex, and perhaps a bird. Aceramic Hacilar⁶ is a settlement with seven building-levels, the fifth from the top dated to *c.* 7000 B.C. Architectural remains are simple and consist of mudbrick walls on stone foundations, grouped along an open courtyard containing numerous hearths and ovens, grain bins and postholes for awnings and sheds. The rooms are rectangular in plan, but have no doorways and were therefore probably entered from the roof. The main rooms have lime-plaster floors laid on a basis of pebbles, stained red and burnished, and the red plaster forms at least a dado along the base of the walls. Fragments with geometric patterns may suggest simple wall-paintings, and a small room, perhaps used in the cult, had a circular depression enclosed in a cream oblong left in reserve on the red-painted floor. The use of human skulls on floors may suggest ancestor-worship, but burials must have been extramural. Pottery or clay objects were

¹ §XII, 29, 95 f.

³ §XII, 26, 134 f., figs. 4-6.

⁵ §XII, 27, 87 f., fig. 1.

² §XII, 2, 30 ff.; §XII, 18, 70 ff.

⁴ §XII, 2, 30 ff.

⁶ §XII, 18, 70 ff.; §XII, 24, fig. 49.

unknown, but fragments of marble bowls were found. The stone industry consists of blades and flakes of chert and obsidian, but is too scanty to permit conclusions. Fully polished celts are known. Animal bones are rare, but show cattle, deer, sheep and goat. Only the dog is definitely domestic. Agriculture is attested: two-row hulled barley, emmer wheat, wild einkorn, lentil and several weeds were found. As not one of the seven building levels had been destroyed by fire, house floors were clean and the number of artefacts from aceramic Hacilar is minute and disappointing.

The next phase is well represented by the great mound of Çatal Hüyük,¹ a city site covering 32 acres, one of a score of sites of the period now known on the south Anatolian plateau, most of which are however villages. The period covered is that between c. 6700–5700 B.C., after which the city moved to a different position across the river. Fourteen successive building-levels dated by over a dozen carbon-14 dates provide a unique framework for this remarkable civilization, which developed uninterrupted over at least a millennium. The economy of this vast site, which may have housed a population of ten thousand souls, is based on hunting, advanced agriculture, stock-breeding and probably trade. Sheep, goat and dog were domestic, but the importance of hunting was not thereby diminished. Wild cattle, wild sheep, onager, half-ass, red, roe and fallow deer, ibex, wild boar, bear, hare, leopards,² and various birds, such as black crane, were hunted, but fishing in the river was less important. Agriculture had made tremendous strides forward during the seventh millennium and the rich deposits of level VI yield three forms of wheat (emmer, einkorn and bread wheat), two forms of barley (naked six-row barley and two-row barley), two sorts of peas, lentils, bitter vetch, crucifers grown for vegetable oil, as well as apple, almonds, hackberry, juniper berries, acorns, pistachio, imported from the hills.³ This is the most varied diet known from any Near Eastern neolithic site.

A balanced diet is indicated by the well-preserved teeth of the skeletons, for at Çatal Hüyük the dead, Proto-Mediterranean dolichocephalic as well as brachycephalic,⁴ were buried below the platforms in houses and shrines. Trade is indicated by the materials used in the settlement, for in the alluvial plain only clay and wood were to be found. Greenstone used for axes, adzes, chisels, and all carpenters' tools came from an outcrop in the plain;

¹ §XII, 20 ff., 25; §XII, 24, 81 ff.

² Information from Dr D. Perkins, Jr.

³ §XII, 10, 121 ff.

⁴ Information from Mlle D. Ferembach.

volcanic rocks (used for querns, pounders, mortars, agricultural tools) from Kara or Karaca Dağ and lava, used as pot-boilers, came from the same sources. Dolomitic limestone, used for polishers, came from the northern hills, white, blue and veined limestone from the Taurus, calcite and alabaster from the Kayseri region, and obsidian from around Aksaray. White marble must have come from the west, dentalium from the Mediterranean, flint from north Syria, large cowries from the Red Sea. Not only stones but metals were used; lead and copper, native or smelted, occur, from Level X, c. 6500 B.C.;¹ both are found in the Taurus and ground malachite and lazurite, haematite, limonite, vermilion and cinnabar are used as paints. Lead and copper are used for trinkets, tubes and beads, and perhaps for awls and drills, and silver and gold may have been known, but have not been found. Other imported materials include sulphur and pumice and it is evident that prospecting and trade played a significant role in Çatal Hüyük's economy.

The entire period, so far as the site is excavated, knew the use of pottery, though on a limited scale. From level XIII onwards a cream-burnished heavy grit or straw-tempered ware appears with simple bowl and hole-mouth shapes. From Level VIII we find a thinner dark burnished ware, an improvement, grit-tempered and used mainly as kitchen ware for cooking. It is not until Level V (c. 5900) that pottery becomes common and then we find the beginning of fine red and cream-burnished wares side by side with the dark cooking pots. By Level III (c. 5800), the first attempts are made to decorate the cream ware with smears of paint and in the final levels red, buff and cream wares prevail side by side with dark cooking pots. Throughout this pottery development the influence of basketry and wooden vessels is strong and from Levels VIa and b, c. 6000, B.C. we have a most well-developed set of wooden vessels carved from fir wood (*abies*)² and perhaps other woods. These show the preference for fine wooden vessels such as large dishes, bowls of various sorts, cups and boxes fitted with lids. Basketry and weaving are equally well developed; cereal straw and marsh grass were used for twilled mats and coiled baskets, fitted with lids. From the carbonized burials of Level VI there is evidence for fur, felt, and fine textiles,³ probably of sheep and goats hair and perhaps bast fibre other than flax. Rope has survived and also red thread used for

¹ *Archaeologica Austriaca*, 35 (1964), 98 ff.

² Identified by Dr E. Tellerup of the National Museum, Copenhagen.

³ H. Burnham in *A. S.* 15 (1965), 169 ff.

stringing beads. Cloth, skin, and fur garments were fixed at a woman's shoulder by pins, but male garments had antler toggles and bone belt-hooks and eyes. Leopard skins were probably ceremonial. Bone was further used for awls, needles, spatulae, spoons, scoops, polishers, handles of tools and weapons and sickles.

Obsidian and flint tools and weapons show a tool kit of over fifty types.¹ Flint, imported from north Syria is relatively rare and used for ceremonial daggers, scrapers, firestones, stout knives. Spearheads, arrowheads of several sizes, scrapers and blades of all sorts, including sickle blades, abound, but burins are rare and geometric microliths absent. Pressure flaking, unknown in the previous period, is widely practised, especially on the tanged projectile points. Other weapons are baked clay balls up to 4 in. in diameter, slingstones, and polished stone maceheads, whereas nets are depicted in wall-paintings. Obsidian mirrors are found in women's graves and may have been used for divination.

The architecture of Çatal Hüyük is fascinating; each house or shrine consists of a rectangular room with a narrow storeroom added along one side, built of proper mud-brick without stone foundations. Party walls are unknown. Buildings are grouped in extensive quarters next to each other and entered only from the roof. A few courtyards serve for sanitation and rubbish disposal. Streets are unknown and the outside of the settlement was formed by a blank wall without entry, behind which lay less important rooms, the prototype for the casemate wall. Wooden ladders fixed against the south wall of each main room led into the buildings, which were lit by small windows set below the eaves of the flat roofs in at least two of the walls, usually the south and the west. The light fell on the north and east walls, along which were set two main platforms, a square one in the corner for the men, a larger, flanked by two wooden posts, along the east wall for the women. A bench extended along this platform. Hearth and oven were placed along the south wall next to the ladder. Subsidiary platforms are sometimes present for other members of the family, such as children, and the dead were buried below these platforms which served as sofas for sitting and sleeping. Wooden posts and beams formed a timber framework for the plastered brick walls and these wooden elements divide the walls into a series of vertical and horizontal panels, some of which may be decorated with solid red panels (houses) or wall-paintings and reliefs (in the case of shrines). With minor variations this standard house plan prevails from Levels X to II, but earlier structures are less developed.

¹ From an unpublished manuscript by P. Mortensen.

Shrines or small temples are distinguished from houses by their religious decoration, the presence of cult statues in stone and clay and by richer burials with ceremonial weapons, obsidian mirrors, etc. The decoration takes several forms: one of these is plaster reliefs, in which the mother goddess is represented in anthropomorphic form. Her son or consort is in the form of a bull cut out in the plaster or more frequently as the head of a bull or ram, often incorporating the horn cores of the wild animal. Other cut out figures show deer and feline heads. Reliefs of leopards,¹ sacred animals of the goddess, are frequent and attractively painted. Symbolic representations are common; bucrania and benches with bull's horns in rows, modelled breasts containing skulls of vultures, lower jaws of wild boar, heads of weasel and fox, all scavengers and harbingers of death. Wall-paintings are common from Level X onwards and these frequently imitate red cloth(?) and gaily patterned textiles and kilims, hunting and fishing nets, rows of human hands, bulls, flowers and butterflies, or bees, etc. Less common and possibly commemorative are scenes of animal baiting and epic hunts in two shrines of Levels V and III with numerous human figures lively drawn, pulling tails and tongues of wild bulls,² red deer stags, wild boar, bear, and groups of onagers, donkeys, black cranes, and so on, scenes of running and dancing. Even more remarkable are pictures connected with death—scenes of enormous vultures pecking at headless corpses of men lying on their left side³ or extended on their back (the normal position of the dead), a figure carrying human heads, or a scene of a man armed with a sling protecting a corpse from the attention of two black vultures. A representation of a mortuary building of reeds and matting shows numerous human skulls below and such scenes are evidently inspired by the funerary customs of the people at Çatal Hüyük. Upon death corpses were exposed, probably in a mortuary, until the soft parts had decayed. The skeleton, dry but still anatomically intact, was then wrapped up in textiles or basketry and interred with appropriate funerary gifts, jewellery for women and children, weapons for men, below the platforms in houses and shrines. Baskets and wooden vessels are common to all. A number of women was first painted with red ochre or cinnabar as in the Upper Palaeolithic and later at Hajji Firüz and Sialk. Blue and green paint were applied to certain skeletons, male and female in Levels VII and VI, but only to neck and eyebrows. Beads of the same colours (apatite and copper) take the place of paint in the later layers.

¹ See Plate 5 (a).² See Plate 5 (b).³ See Plate 6 (a).

Statuettes are common; those of the lower levels are often made of marble, limestone, or alabaster, those of the later levels are mostly of clay, often painted. They depict the main deity, a goddess, both as mother and maiden and a male deity either as child, adolescent or bearded father figure. Whereas the bull, ram, stag as well as the leopard are associated with the male figure, leopard and vulture are the goddess's sacred animals. A large clay figure from the shrine in Level II shows the goddess supported by felines giving birth to a child.

The origin of this Neolithic civilization is still unknown and as excavations continue we may expect many more surprises. It is now evident that the Neolithic of Mersin and the 'Amūq plain of north Syria represent two offshoots of Çatal Hüyük, with a very similar but less sophisticated obsidian and flint industry, similar greenstone celts and similar dark burnished pottery which in these coastal regions, however, was sometimes decorated along the rim by impressions made with the edge of a shell or animal bone.¹ Such decorated pottery, unknown on the Anatolian plateau (or in Pamphylia, another offshoot) is characteristic for Cilicia, north Syria ('Amūq A, B), Early Neolithic Byblos and its affiliated cultures, Tell Ramad III A-B and the coastal Palestinian neolithic, but here we must reckon with earlier local traditions. Clay stamp-seals, and figurines are generally similar and Early Neolithic Byblos has a chipped stone industry that shows many parallels with Çatal Hüyük.

The end of Çatal Hüyük is still obscure. The site was moved across the river c. 5700 B.C. and as excavations have not yet reached the lowest levels of Çatal Hüyük west it is unknown whether a Late Neolithic is represented as at Hacilar IX-VI, some two hundred miles farther west, dated by the carbon-14 method to c. 5750/5700-5600 B.C. At this site,² the Late Neolithic arrivals were newcomers, but from where we do not know. They need not be descendants of the people of Çatal Hüyük and it is far more likely that they came from the Pisidian lake district, which during the previous period had shown some sort of western variant of the Çatal Hüyük culture, as yet untested by excavation. The changes are apparent; hunting has declined and with it the fine obsidian industry withers; mace and sling are now the main weapons. Wall-paintings disappear with the end of hunting, teeth decline as gritty cereal foods take the place of a balanced diet, steatopygy increases in the representations of female deities and the male, now that hunting is unimportant, is no longer represented in his

¹ §XII, 19, fig. 4.

² §XII, 18, 42 ff.

own right. Elaborately decorated shrines give way to a domestic cult; statuettes appear in nearly every house. Painting, once confined to walls, finds a new vehicle on the improved cream coloured fabrics and though an occasional modelled bull's head is still found in Hacilar VI, they are now mainly found on pots, and in miniature. The textile patterns of Çatal Hüyük will reappear, but only after the late neolithic and then on pots of Hacilar V-II, together with a 'fantastic style', a schematized representation of animals, goddesses and symbols derived from the reliefs of Çatal Hüyük, and almost unrecognizable. Burial habits are unknown, as the dead are no longer interred in the houses, but it may be assumed that burial in cemeteries no longer necessitated the elaborate practices of excarnation.

In architecture new methods of planning make their appearance; houses are now arranged around open courtyards¹ and along narrow alleys and the settlement was probably protected by a defensive wall. In an area where stone was abundant the houses were provided with stone foundations, and even if a house still consists of a single main room, with the old storeroom now incorporated and only screened off, it now opens directly on to a courtyard by means of wide double doors. Moreover, the kitchen and additional service rooms are placed outside the building on either side of the entrance, lightly constructed of posts and wattle and daub. The main living room, rectangular in shape and up to 30 ft. long, still contains a hearth and oven facing the doorway, but posts now support a light upper storey with further rooms, accessible by a brick flight of steps or wooden ladders. In the main living-room on the ground floor, cupboards let into the wall, or built up in brick add to the amenities of living. Grain bins, rectangular plaster boxes placed along the wall, are common. The old system of sleeping platforms is abandoned, and so is a timber frame within the walls, which are here 3 ft. thick and consist of two rows of plano-convex bricks, plastered over in white.

The economy of the settlement is mainly agricultural and a continuation of that of Çatal Hüyük: emmer, einkorn, bread wheat, naked six-row barley, two sorts of peas, lentils, and now also chick-peas, as well as acorns, hackberries, etc. Chert blades are set in curved antler-sickles. Hunting had declined, sheep and goat are probably domesticated, cattle and pig appear, whether or not domesticated; the dog is known. Trade is as important as before and accounts for yellow and red ochre from Lake Eğridir, haematite (used for painting pots) and white marble from the

¹ §XII, 18, figs. 2-3.

hills, sulphur from the eastern end of Lake Burdur, sea-shells from the Mediterranean, obsidian and pumice from central Anatolia.¹

Whereas the chipped stone industry has declined to a blade industry in local red, brown and yellow chert with some obsidian, some of it microlithic, the polished stone industry flourishes. Greenstone axes (rather than adzes) and chisels set in antler sleeves abound, polished maceheads are numerous and there is a flourishing industry of marble bowls, some up to 2 ft. in diameter, palettes, beads, etc. However, for statuettes clay is the usual material. The bone industry flourishes: apart from sickles there are finely made spatulae with terminals in the form of naturalistic heads of animals and even humans, awls, needles, spoons, belt hooks and scoops. Shell and especially mother of pearl is common for beads, pendants, etc., sometimes carved in the form of the mother-goddess. Weaving is indicated by mat and textile impressions and by abundant terracotta spindle whorls and loom-weights. Traces of copper occur in many buildings but no artefacts were recovered.

The Late Neolithic pottery is a development from that of Çatal Hüyük or its western equivalent, the Kızılkaya ware.² Brilliantly burnished monochrome red, grey, buff and mottled wares prevail, sometimes with black interiors. Vertically perforated tubular lugs are a characteristic feature. The hole-mouth shape still occurs together with basket handles, both typical of Çatal Hüyük, but is no longer common. Gracefully curving S-profiled bowls take the place of the straight-side bowls of Çatal Hüyük, and the influence of woodwork, predominant at the latter site, declines. Ovals are common, but square and rectangular vessels have gone. Very typical are great lentoid water jars, provided with four stout lug handles for carrying. Small jars now have marked lips, and many of the larger ones, cream coloured, bear simple painted decoration in the form of vertical stripes, hatching or chevrons in red, or more rarely in white. From these early painted wares, which were already appearing at the end of Çatal Hüyük (III-I), there was to develop the spectacular painted pottery of Hacılar V-I. Ritual vessels also make their first appearance in Hacılar VI; a drinking cup in the form of a woman's head and animal vessels showing a recumbent pregnant doe, a headless bird, a wild boar, some possible small cows or bulls, a double pig's head—animals already familiar from the earlier Neolithic of Çatal Hüyük. Small bulls' and bears' heads occur on the monochrome pottery, as well as fine bucrania, ibexes and

¹ Information from Dr H. Helbaek.

² §XII, 19, 166 f., fig. 6.

possibly even figures of the great goddess herself. It would appear that at Hacilar these figures previously painted or modelled in relief on the shrines of Çatal Hüyük were transferred to pottery decoration. In the Late Neolithic they still appear in miniature relief on monochrome wares, in the following 'Early Chalcolithic' they are painted on the pottery.

Evidence for religion is rich, not confined to specific shrines but distributed throughout the eight houses excavated. Typical of Hacilar VI are limestone slabs crudely incised with facial features or doll-like replicas in clay. The division between well-modelled cult statues and crude *ex-votos*, as found at Çatal Hüyük, also continues; and amorphous highly schematized clay figures, which once had wooden peg heads, occur side by side with magnificent baked clay figures up to 8 in. long. The latter are among the most remarkably naturalistic representations of the Anatolian goddess yet found.¹ She is shown as a young girl wearing her hair in a pigtail, with small breasts and a bikini-like garment, or as a mature naked woman with prominent stomach and buttocks, her hair tied up in a bun. Some wear tiaras and hold pet leopards, or are seated accompanied by children; others are dressed and shown resting. At least two are shown seated on one or two leopards, as at Çatal Hüyük, and one of them holds a baby leopard. A fine group shows a young goddess dressed in leopard skin playing with her son. These splendid figures, naturalistically rendered with loving detail are the evident development of the clay figures from the later levels of Çatal Hüyük, from which they differ only in detail of dress, hair-style and rendering of the eyes. They have parallels in the lake district, where at Çukurkent similar, but much smaller, figures have been found.²

Late Neolithic pottery had a remarkable distribution throughout western Anatolia. Northwards, wares related to the Late Neolithic of Hacilar reached the region of Lake Izmit via the Eskişehir plain. At Menteşe we find cream and light-grey coloured wares as well as fragments of red painted plaster,³ at Üyücek, east of Izmit, oval vessels in similar pottery. The Fikirtepe culture⁴ on the northern shore of the gulf of Izmit (still unpublished) presents a number of analogies with Hacilar of this period; such as ovals, disc bases, vertical tubular lugs, a number of bowl and jar shapes, bone spatulae, a degenerate blade industry, as well as a number of significant differences, such as dark burnished ware, incision, wooden shapes and intramural burial.

¹ §XII, 18, fig. 5-23.

² Ankara Museum, unpublished.

³ §XII, 13, 54, 56.

⁴ §XII, 1, 1 ff., figs 4-19 (pls. III-IX).

Beyond the Anatolian plateau, monochrome pottery resembling that of Hacilar VI (and V) extends to the Aegean, and to some of the islands, such as Chios¹ and Skyros² where the fashion of vertical tubular lugs was also adopted. The inland sites of Morali, Nuriye and Ülücek³ show some differences, such as the use of a straw temper and certain variations in shape. Painted wares are absent, both in the west and the north.

XIII. THE EARLY CHALCOLITHIC PERIOD

Although the transition from Late Neolithic to Early Chalcolithic was accompanied with destruction and upheaval at Hacilar, possibly also at Çatal Hüyük, but not apparently at Mersin, there is no evidence to suggest that the new culture was introduced from elsewhere. Quite to the contrary, all evidence points strongly to continuity of tradition. Certain changes do, however, appear and the most noticeable of these is the ascendancy gained by painted pottery at the expense of monochrome ware. The latter remained in use in its red, brown and buff and cream varieties, but its shapes were now those of the red-on-cream painted ware. Another feature of the period is the sharp decline in the chipped-stone industry, as the probable result of the first appearance of metal (copper) tools. It must be admitted that nowhere has metal yet been found in the earliest layers of the period, but by the end copper tools and pins occur at Mersin in Level XXI⁴ and as fragments in Hacilar IIb and I.⁵

Three geographically distinct Early Chalcolithic cultures are already known; the 'proto' and Early Chalcolithic of Mersin XXIV-XX in the Cilician plain;⁶ the Çatal Hüyük West culture in the Konya plain⁷ and Hacilar Early Chalcolithic (V-I d) in the south-west of Anatolia.⁸ Contemporary cultures farther west and north are badly documented. Scattered sherds are found at Ayio Gala,⁹ in the İzmir, Manisa and Akhisar plains, at Çukurhisar near Eskişehir,¹⁰ Karadin near Iznik, etc. A series of carbon-14 dates from Hacilar allows one to date this culture at that site between c. 5600 B.C. and the first quarter of the fifth millennium B.C. In Mesopotamian terms it is roughly equivalent to the Hassūnah culture (with the later Sāmarrā phase) and Hacilar I,

¹ §xii, 7, 194 ff., figs. 12, 13: 1.

² §xii, 28, 321 f., figs. 35-37.

³ §xii, 6, 173 ff., figs. 3-5.

⁴ §xii, 7, 76, fig. 50.

⁵ §xii, 18, 87.

⁶ §xii, 7, 45 ff.

⁷ §xiii, 1, 177 ff.

⁸ §xii, 18, 86 and fig. 2

⁹ §xii, 6, fig. 1: 3.

¹⁰ §xii, 14, 75, fig. 96.

beginning c. 5250 B.C. may overlap with the beginning of Halaf, if one puts its beginning at the same date.

Of the three south Anatolian cultures of this period, that of Hacilar is the best known. A selected 450 surface sherds are as yet the only evidence for the Çatal Hüyük West culture. That of Early Chalcolithic Mersin is based on sherds not more numerous,

Table 7. Chronological chart: Anatolia before 4000 B.C.

PERIOD	NORTH-WEST	SOUTH-WEST	KONYA PLAIN	CILICIAN PLAIN
LATE CHALCOLITHIC	Late Chalcolithic (of Beycesultan type?)	Beycesultan Late Chalcolithic 2 (XXXIV-XXIX) ----- Beycesultan Late Chalcolithic 1 (XL-XXXV)	Mersin XVI-type culture with Painted pottery (Can Hasan)	Mersin XVI Intrusive culture → Mersin XIX-XXVII 'Middle Chalcolithic'
EARLY CHALCOLITHIC	Hacilar I (?)	Hacilar I-V (Painted Pottery culture)	Çatal Hüyük (West) (Painted Pottery culture)	Mersin XXIV-XX (Painted Pottery culture)
LATE NEOLITHIC	↑ Extension of Hacilar Late Neolithic, Fikirtepe?	Hacilar VI-IX	Çatal Hüyük (West)	Mersin XXV-XXVI (or XXVII?)
EARLY NEOLITHIC	Menteşe (?)	Kızılkaya	↑ Çatal Hüyük (East)	Mersin XXVI/XXVII-XXXIII ? Water
	[Base of Early Neolithic nowhere exposed]			
LATE MESOLITHIC		Beldibi (with pottery)		

but these came from some five stratified building levels. The relative size of these three sites is worth noting: Hacilar I measures c. 150 m. in diameter; Çatal Hüyük West c. 200-300 m. and Mersin a maximum of c. 200 m. Many contemporary sites are smaller. Of the architecture of Mersin little need be said. Level XXIV had a series of well-built domed grain silos with stone floors, but Levels XXIII-XX contained little more than rectangular rooms of badly denuded houses on the outskirts of an

unfortified village. Çatal Hüyük awaits fuller excavation. At Hacilar, Level V is an ephemeral affair of squatters subsequent to the destruction of Level VI, and Levels IV and III are in no way different from the fortified village of Level II, which was almost completely excavated and thus provides a unique picture of an Early Chalcolithic settlement in the Near East.¹

A rough rectangle, measuring 250 by 100 ft., was surrounded with a mud-brick fortification wall 5–10 ft. thick, provided with salients and small buttresses.² Three narrow doorways gave access to the settlement, but there may have been others in the destroyed east and south wall. Only one of these led directly into a building, the others opened on to a covered passage-way or an antechamber leading into open courts around which the houses were grouped. A normal house consisted of an antechamber and a main room having a square or rectangular hearth with raised kerb. Some of the richer houses had an additional room or a portico facing the court and had an oven in addition to the hearth in the main room. Each house was separate and all communication took place through courtyards of which there were three. Many of the houses had an upper story. The north-west corner of the settlement was occupied by a granary, with built or sunk grain bins. Two ovens for drying the corn stood in front of it in the courtyard. Three potters' workshops were found in the middle of the village. Newly finished pots, both painted and monochrome, were found together with querns for grinding red and white ochre, ochre cakes, painters' palettes, paint-cups and modelling-tools for fashioning clay statuettes. The eastern quarter of the settlement was allotted to domestic courtyards of small size,³ set back to back with brushwood and plaster partitions, partly roofed. In each of these three were found a flat-topped or open bread-oven with a raised hearth in front, clay bins for the storage and querns for the grinding of cereals. Numerous pounders and pestles littered the floors together with masses of pottery.

In the north-east corner of the settlement was a stone-lined well, probably provided with a *shadūf* for raising the water. The village shrine—or so we interpret it—lay next to the well and north of the domestic quarter. It was slightly larger and more neatly built than the largest houses. A great hall could be divided into two parts by means of a sliding door or screen fitting into the slit of a partition wall. Each of these halves had a shallow recess in the back wall, which might have borne painted patterns or hangings. The western niche contained a standing stone and in

¹ § XII, 18, 97 ff., figs. 5–6.

² See Plate 7 (a).

³ See Plate 6 (d).

front of it there were two oval hollows in the floor near one of which lay a spouted bowl. The niche was screened from the main room by a low screen. A flat-topped oven blocked an open doorway; in front of it was the hearth and a clay bin. In the larger eastern half there was a hearth on the floor in front of a raised alcove with the recess at the back. Along the south and east runs a colonnade of posts, which may suggest that the centre of the hall was open to the sky. Below the floor of this building were found several graves with double burials of mother and child, each provided with a single painted pot. These are the only burials found in the whole Level II settlement, but contracted burials in courtyards have been found in Levels III–V. The number of burials found is, however, so small that one suspects the normal habit was extramural burial in cemeteries, which have not been found. The Level II settlement was destroyed by fire, and probably by enemy action.

Instead of building on the burnt ruins of the previous settlement, the newcomers at Hacilar built a huge fortress¹ around the ancient mound, but not without extensive cutting and levelling of the lower slopes. The external diameter of the fortress, constructed, according to carbon-14 dates, c. 5250 B.C., measured c. 150 m. which makes it a little bigger than Troy II. Only about one-fifth of this fortress has been excavated, but the contrast it presents with the earlier settlement could not be more pronounced. Surrounding an open space with a diameter of c. 100 metres radially arranged blocks of rooms were constructed separated from each other by walled courtyards, through which alone access to the blocks was gained. The fortress had a minimum of two stories, the lower forming a basement entered from above except in the case of what were evidently guardrooms. The walls were immensely thick (up to 12 ft.), often out of all proportion with the rooms they enclose. The rooms, often very large (8.5 × 5.5 m.), have external buttresses as in Level II, but the hearths are now round or oval. The floors were covered with rush matting. Domed ovens are found in the courtyards. Materials of construction are the same as before, but brick sizes vary in each building level. Stone foundations are no longer the rule as in the Late Neolithic. The upper story appears to have been of light construction and probably contained a number of loggias and verandas looking out over the surrounding fields and orchards. To reach the upper story narrow corridors, which evidently once contained wooden steps, opened off the courtyards. The fortress

¹ § XII, 18, 92 ff., figs. 3–4. See Plate 7 (a).

was of considerable strength, but nevertheless burnt with many traces of massacre by some unknown enemy sometime in the early fifth millennium. The last traces of occupation on the site consist of an open village (I c) and some squatters' occupation (I d). Burial would appear to have been extramural.

The continuity in technical traditions is marked: there is no development in the stone industry and the same tools and weapons as were used in the Late Neolithic are found at the end of Early Chalcolithic. The beginnings of metallurgy are still badly documented. An innovation of Level II is the use of large flat stamp-seals of baked clay with incised maeander-like designs. Mother-of-pearl pendants are still very common, but clay statuettes of the Mother Goddess are, though technically competent, stereotyped and unimaginative when compared with their Late Neolithic counterparts. Only one standing type was in use from Levels V–II, but in Level I a seated type also appears. New is the use of obsidian inlay, used for eyes and in one case for the navel. Tendencies towards schematization are also evident in Level I. Theriomorphic vessels continue to be made, but the most interesting innovation is effigies in the form of a seated and dressed Mother Goddess, fully painted and with inlaid eyes, in Level I.¹ At the same time figurines of animals appear, hitherto rare if not unknown. Spindle-whorls of this period are flat discs of pottery, made from painted or monochrome sherds. A flourishing textile and kilim (woven rug) industry may be inferred from the numerous textile patterns seen on the painted pottery at Hacilar.

No changes in economy can be detected; from Hacilar II we have emmer and einkorn wheat, hulled and naked barley, lentils, field peas and bitter vetch—all already cultivated in the Late Neolithic period, if not before.² From Mersin XXII there is a little wheat (emmer?) and two-row barley.³ The following animals are provisionally represented at Hacilar: sheep, goat, cattle, pig, dog, wild boar, deer, and tortoise.

By far the most spectacular contribution of the Early Chalcolithic period in Anatolia is its fine painted pottery. The three main cultures show considerable differences in shape, quality, painting, and patterns. By far the least accomplished group is found in Cilicia accompanied by a black burnished ware, decorated with *pointillé* incision filled with white chalk. The shapes of the painted ware are few and simple;⁴ simple bowls and squat or globular jars with funnel or collar necks. Oval shapes are infrequent and lugs

¹ § XII, 18, 103 f., pl. xv.

³ § XII, 7, 73 f.

² Identified by Dr H. Helbaek.

⁴ § XII, 7, figs. 34, 52, 53.

and handles uncommon. Patterns are few and simple (bands, stripes, parallel lines, multiple chevrons) at the beginning. From Level XXIII onwards hatched bands between thicker lines gain in popularity, often in combination with chevrons.¹ The red paint at Mersin has a tendency to turn to brown and black at the end of the period and much of the painting is careless and the burnishing poor.

The painted pottery of the Çatal Hüyük West culture is more accomplished in every respect. Paint remains red, even though it is often somewhat washy. Burnishing is more careful, slips more common. Often the slip has a greenish tinge, either due to the marshy clay or to high firing. The dark burnished ware of Cilicia is not found in the Konya plain, where the monochrome wares are red, buff and brown; incision is likewise unknown. All the Cilician shapes are known in the Konya plain, but in addition there are three very typical local ones: a carinated bowl, a basket-handled jar and a jar with anti-splash rim. A fragment of the latter shape was found imported into Mersin XXI.² Oval vessels are not infrequent. Motifs are again predominantly linear, but reserve patterns occur. Vertical zigzags, multiple chevrons, interlocking inverted V's with or without fillings of dots, metope decoration in hatched blocks and concentric lozenges are common. Hatched bands in the Mersin manner are unknown. Large bowls are painted on both exterior and interior and may have borne great centre pieces as in Hacilar I. The painted pottery of the Konya plain looks like a superior and much enriched version of that of Cilicia, and one might perhaps suggest some plateau influence in the Cilician pottery, a theory that should be tested by excavation. Imports in Mersin XXIV–XXII firmly establish the date of the Çatal Hüyük West culture.³

The Early Chalcolithic pottery of Hacilar is of such technical perfection that a comparison with that of its neighbours (or successors) is bound to be detrimental to the latter. Only the finest products from Thessaly and the best Halaf ware reached such standards. Fine local clays and a long period of previous experience undoubtedly contributed greatly to this technical perfection, but the boldness in design of shape and the inventiveness of the decorative patterns, invariably taking full advantage of the space to be decorated, must be ascribed to the artistic sense of the Hacilar potters. Many of these early pots are not just fine examples of the potter's craft, but like many Greek vases they rank as works of art.⁴

¹ §xii, 7, fig. 54: 8, 12, 16.

² §xii, 7, fig. 56: 27.

³ §xii, 7, fig. 34: 23 (xxiv); fig. 53: 7 (xxiii).

⁴ See Plate 7 (b).

Shapes are numerous, varied, inventive and sophisticated, and often they would seem to betray metal prototypes. Chronologically the pottery falls into two periods, that of Levels V–II and that of Levels Ia–Id. Shapes of the earlier period include carinated bowls: low ones with a single and high ones with a double zone of decoration. Oval cups, with one or two pinched spouts on the rim, are decorated with designs in panels, often with a different motif on either side. Jars have short or funnel necks and two ‘Hacılar’ handles, sometimes fashioned into the likeness of an animal head, with inlaid obsidian eyes. Patterns are linear only in the earliest Level V, representing the transition from the simple painted Late Neolithic ware. They gradually become more solid with patterns left in reserve. Apart from geometric solids, weird curvilinear designs culminate by the time of Level II in a variety and fantasy that is more reminiscent of Peruvian pottery than anything ever seen in the Near East.

In Level I a new set of shapes appears together with a pure linear style of decoration, which is not derived from the pottery of the previous level. Large carinated bowls prevail, decorated inside and out, often with great centre-pieces in the interior. Other bowls are square, oval or sub-rectangular. A great variety of cups, beakers and jars is found, many of the latter being ovoid or fashioned in the shape of a rugby football: these are possibly churns. Primitive loop handles replace the old ‘Hacılar’ handle. Spirals and maeanders, never quite absent in the earlier levels, become common in Level I. Stylized animals and human beings are exceedingly rare, but a human hand or arm, probably of apotropaic value, occurs from Levels VI to II. Motifs are too varied to be discussed here, but many seem to derive from textiles. White paint on red reappears abundantly in Level I.

The Early Chalcolithic settlements came to a violent end: both Hacılar and Mersin were burnt and Çatal Hüyük was, if not burnt, deserted for ever. The end of the period would appear to have fallen within the first quarter of the fifth millennium B.C.

XIV. THE LATE CHALCOLITHIC PERIOD

Whereas a ‘Middle Chalcolithic’ can be established in Cilicia (and less confidently in the Konya plain) as an equivalent for Tell Halaf in Mesopotamia and Syria, no such obvious division is practicable in Western Anatolia. Here, at Beycesultan, about twenty-five building levels (XX–XL) do not allow for sub-

divisions,¹ even though four successive stages can be recognized in the pottery. The first two of these, Late Chalcolithic I (with six) and II (with seven), building levels may correspond to Mersin XIX–XVII (with four) and XVI_z–XVI_a (with five) building levels. A recent carbon-14 date from Warka gives c. 4300 B.C. for the beginning of southern 'Ubaid² and 4300 B.C. may therefore be taken as the end of Mersin XVI_a and Beycesultan Late Chalcolithic 2. We have already seen that Mersin XX was destroyed by an enemy, and side by side with local painted wares continuing the late Early Chalcolithic tradition there now appear actual imports of Halaf pottery and local imitations of Halaf vessels and techniques.³ These start in Level XIX and continue through XVIII and XVII. The architectural remains of these phases are scanty and considerable unrest is suggested.⁴

In Level XVII⁵ there begins to appear a new painted pottery—the Mersin cream-slipped ware, painted in red, brown or black, accompanied by a cream or red burnished ware with exaggerated handles and a black burnished ware with white-filled *pointillé* designs.⁶ It has been suggested that the signs of disturbance observed in these earlier levels (XIX–XVII) are associated with the arrival of this new painted pottery which has no known Cilician antecedents⁷ and which would appear to be almost confined to Mersin. Unlike the Halaf vessels introduced in the former phase, these pots are quite non-Mesopotamian. But it is not only the pottery that is foreign, but also the new architecture and the sudden appearance of copper tools (chisels and axes) which clearly shows the greatly increased demand and supply of this material which was now available. Introduced in Level XVII, this new culture gradually ousted the Halaf influence at Mersin and in Level XVI a strong fortress crowns the mound.⁸ This remained in use for a considerable period and was in turn sacked and burnt. Once more there are traces of a massacre. In the burnt remains masses of pottery and objects allow one to reconstruct the culture of Mersin at the end of Level XVI_a, c. 4300 B.C.

The fortress is of extreme interest even though it is now no longer an isolated example. A comparison with that of Hacilar I reveals some similarities as well as important differences. The size of the Mersin fortress is not known, but it would appear to have been smaller than that of Hacilar I. Unlike the latter it stood on

¹ §xiv, 3, 38 ff.

² §xii, 7, 102 f.

³ §xii, 7, fig. 76: I, 3, 5–7, 12.

⁷ §xiv, 7, 13 f.

² §xiv, 1, 8 (H 138/123).

⁴ §xii, 7, 110 ff.

⁶ §xii, 7, 141 ff., figs. 91–4.

⁸ §xii, 7, 131 ff., figs. 79–80a.

top of the steeply revetted slope of the mound which rose some 50 feet above the banks of the river, adding greatly to its defensive strength.

It appears to have been one-storied and its continuous roof provided a fine defensive platform for a garrison whose main armament was, as at Hacilar before, the sling. Directly behind the main defensive wall, some 5 ft. thick and provided with stout offsets, lay a series of barrack rooms, each lit by two slit windows set in the defensive wall. Each house consisted of a main room, equipped with grinding platform, grain-bin and other domestic arrangements, and a small walled courtyard in front. All living rooms once communicated with the next, but these doors were subsequently bricked up. The Water Gate, 6 ft. wide, was flanked by two projecting towers with guardrooms, a distinct advance on the Hacilar system. An important building, probably the ruler's residence, stood south of the gate and seems to have been a rectangular block divided down the middle by a long central courtyard containing a domed oven, with a range of rooms on either side.

Compared with the Hacilar I fortress, that of Mersin shows considerable advances in military architecture combined with older principles, such as one might expect to have developed during almost a millennium that separates these two earliest examples of Anatolian fortresses. It should be emphasized that this type of architecture appears to have originated in Anatolia and probably on the plateau. With Halaf or Mesopotamia in general it appears to have no connexion whatsoever.

It is not clear whether the culture of Mersin XIX–XVII should be ascribed to new settlers or to increased contact with its new Halaf neighbours. As there are strong signs of continuity in Level XIX, it might be argued that the second alternative is nearer the truth. Occasional Halaf sherds occur in the Konya plain and these are probably evidence of trade only, perhaps in metals, with an area which need not have been farther away than Mersin. On the other hand, the Mersin XVI culture is probably intrusive from the Anatolian plateau and it probably reached Mersin by the Calycadnus route from the plain of Karaman. Here, among others, the important mound of Can Hasan¹ produced not only the cream-slipped ware, with similar shapes, but also the red and brown monochrome and the polychrome painted pottery. Slingstones of baked clay are common, and only

¹ Now being excavated by D. H. French, see *A. St.* 12, 27 ff., 13, 29 ff., 14, 125 ff., 15, 87 ff.

the black burnished ware has not been found. It is possible that the latter is a local Mersin fabric, continuing an Early Chalcolithic tradition, but borrowing the new shapes. The same or a closely related culture appears throughout the Konya plain, of which that of Karaman forms the southernmost part. So, even before excavation, it would appear that this area, linked by a natural route to Cilicia since the Neolithic period, should almost certainly be considered as the original home of the Mersin XVI culture.

Whereas there is thus some continuity in the traditional use of painted pottery in the eastern half of Southern Anatolia, the picture presented by the south-west is quite different. Material of the Beycesultan Late Chalcolithic period overlies Hacilar I at a number of sites in south-west Anatolia,¹ virtually ruling out the theoretical possibility of an overlap. Between these two cultures there is the greatest possible break imaginable. Historically speaking the end of the Hacilar culture was probably produced by a movement of north(-west) Anatolian 'barbarians' with a much inferior culture. Dark burnished wares, full of straw admixture, with heavy and clumsy shapes and frequently ornamented in matt white paint now prevail. The number of patterns is strictly limited and the painting too fine for the heavy ware.² This form of decoration, dominant in Late Chalcolithic I, becomes less common in the next phase, when a number of new shapes betray contact with the higher culture of the Konya plain.³

Little is known of the architecture of these two earliest phases but the existence of mud-brick buildings without stone foundations and of rectangular rooms. Far more important is the discovery, in Level XXXIV at Beycesultan (the first of Late Chalcolithic 2), of a small hoard⁴ of copper objects; bars, needles, drills, a fragment of a dagger, and a silver ring, showing the normal use of this once precious metal for ordinary household tools.

The distribution of the south-west Anatolian Late Chalcolithic 1-2 is fairly well known. Westward it reached Samos (Tigani),⁵ Chios⁶ and the Akhisar-Manisa region.⁷ Some pattern-burnished sherds in Late Chalcolithic 2 may be linked to Tigani and to the still isolated site of Beşik Tepe in the Troad.⁸

¹ §xii, 18, 86.

³ §xiv, 3, 46.

⁵ §xiv, 3, 47.

⁷ §xiv, 2, 99 ff., figs. 1, 2, 5.

² §xiv, 3, 44, fig. 5.

⁴ §xiv, 5, 47 ff., fig. 6: pl. IIIA.

⁶ §xii, 6, 198, figs. 14, 12-15.

⁸ §xii, 6, 207, fig. 15.

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Abh. Berlin (München, etc.). Abhandlungen der Preussischen (Bayerischen, etc.) Akademie der Wissenschaften, Phil.-hist. Klasse
Abh. Mainz. Abhandlungen der Preussischen Akademie der Wissenschaften, Math.-naturwiss. Klasse
Acta Arch. Acta Archaeologica
Acta Or. Acta Orientalia
Aeg. Inschr. Berlin. Aegyptische Inschriften aus den . . . Museen zu Berlin
Ägyptol. Forsch. Ägyptologische Forschungen
A.I.R.R.S. Acta Instituti Romani Regni Sueciae
A.J. Antiquaries Journal
A.J.A. American Journal of Archaeology
A.J.S.L. American Journal of Semitic Languages and Literatures
Alte Or. Der Alte Orient
An. Biblica. Analecta Biblica
An. Or. Analecta Orientalia
Anc. Egypt. Ancient Egypt (continued as *Ancient Egypt and the East*)
Ann. Arch. Anthr. Annals of Archaeology and Anthropology (Liverpool)
Ann. Arch. de Syrie. Annales Archéologique de Syrie
Ann. A.S.O.R. Annual of the American Schools of Oriental Research
Ann. Assoc. Amer. Geog. Annals of the Association of American Geographers
Ann. D.A.J. Annual of the Department of Antiquities of Jordan
Ann. N.Y. Acad. Sci. Annual of the New York Academy of Sciences
Ann. Serv. Annales du Service des Antiquités de l'Égypte
Antiq. Antiquity
A.O.S. American Oriental Series, American Oriental Society
Arch. Anz. Archaeologischer Anzeiger. Beiblatt zum Jahrbuch des deutschen archäologischen Instituts
Arch. Delt. Ἀρχαιολογικὸν Δελτίον
Arch. de l'Inst. de Paléont. hum. Archives de l'Institut de Paléontologie humaine
Arch. Eph. (Ἀρχ. Ἐφ.) Ἀρχαιολογικὴ Ἐφημερίς
Arch. f. Or. Archiv für Orientforschung
Arch. Orient. Archiv Orientalní
A.R.M. Archives royales de Mari
A. St. Anatolian Studies
Ath. Mitt. Athenische Mitteilungen, Mitteilungen des deutschen archäologischen Instituts, Athenische Abteilung
B.A. Beiträge zur Assyriologie und semitischen Sprachwissenschaft
B.C.H. Bulletin de Correspondance hellénique
B.E. Babylonian Expedition of the University of Pennsylvania
Bibl. Aeg. Bibliotheca Aegyptiaca
Bibl. Arch. et Hist. Bibliothèque archéologique et historique
B.I.N. Babylonian inscriptions in the collection of J. B. Nies, Yale University
Bi. Or. Bibliotheca Orientalis

- B.M. Quart. British Museum Quarterly*
Boll. Soc. Geol. Ital. Bollettino della Società Geologica Italiana
B.R.G.K. Bericht der römisch-germanischen Kommission
B.S.A. Annual of the British School at Athens
Bull. A.S.O.R. Bulletin of the American Schools of Oriental Research
Bull. A.S.P.R. Bulletin of the American School of Prehistoric Research
Bull. Inst. Arch. London Bulletin of the Institute of Archaeology, University of London
Bull. Inst. d'Ég. Bulletin de l'Institut d'Égypte
Bull. I.E.S. Bulletin of the Israel Exploration Society
Bull. M.B. Bulletin du Musée de Beyrouth
Bull. M.M.A. Bulletin of the Metropolitan Museum of Art (New York)
Bull. Soc. fr. d'ég. Bulletin de la Société française d'Égyptologie
Bull. Soc. Geogr. d'Égypte. Bulletin de la Société de géographie (d'Égypte)
Bull. Soc. préh. fr. Bulletin de la Société préhistorique française
C.A.H. Cambridge Ancient History
Cah. H.M. Cahiers d'histoire mondiale
C.C.G. Cairo Museum, Catalogue Général
Chron. d'Ég. Chronique d'Égypte
C.-R. Ac. Inscr. B.-L. Comptes-Rendus de l'Académie des Inscriptions et Belles-Lettres
C.-R. du congr. géol. int. (Belgique). Comptes-Rendus du congrès géologique international
C.T. Cuneiform Texts from Babylonian Tablets etc. in the British Museum
E.S.A. Eurasia septentrionalis Antiqua
Geogr. Rev. Geographical Review
Geol. Mag. Geological Magazine
Gesch. Alt. E. Meyer, Geschichte des Altertums
G.J. Geographical Journal
Hierat. Pap. Berlin. Hieratische Papyrus aus den königlichen Museen zu Berlin
Hist. Z. Historische Zeitschrift
H.U.C.A. Hebrew Union College Annual
I.E.J. Israel Exploration Journal
Ill. Ldn News. Illustrated London News
Jahrb. des d. arch. Inst. Jahrbuch des deutschen archäologischen Instituts
J.A.O.S. Journal of the American Oriental Society
J. Bibl. Lit. Journal of Biblical Literature and Exegesis
J.C.S. Journal of Cuneiform Studies
J.E.A. Journal of Egyptian Archaeology
J.E.O.L. Jaarbericht van het Vooraziatisch-Egyptisch Genootschap, 'Ex Oriente Lux'
J.H.S. Journal of Hellenic Studies
J.N.E.S. Journal of Near Eastern Studies
J.P.O.S. Journal of the Palestine Oriental Society
J.R.A.I. Journal of the Royal Anthropological Institute
J.R.A.S. Journal of the Royal Asiatic Society
J.R.S.A. Ireland Journal of the Royal Society of Antiquaries of Ireland
J.W.H. Journal of World History
K.A.V. Keilschrifttexte aus Assur verschiedenen Inhalts
K.F. Kleinasiatische Forschungen
K.U.B. Keilschrifturkunden aus Boghazköi
M.D.O.G. Mitteilungen der Deutschen Orient-Gesellschaft

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Mitt. deutsch Inst. Kairo. *Mitteilungen des deutschen Instituts für ägyptische Altertumskunde, Kairo*
Mitt. Inst. Or. *Mitteilungen des Instituts für Orientforschung, Berlin*
M.J. *Museum Journal, University of Pennsylvania*
Mon. Ant. *Monumenti Antichi (Milan)*
M.U.S.J. *Mélanges de l'Université St.-Joseph*
M.V.A.G. *Mitteilungen der vorderasiatisch-ägyptischen Gesellschaft*
O.I.C. *Oriental Institute Communications*
O.I.P. *Oriental Institute Publications*
O.L.Z. *Orientalistische Literaturzeitung*
Or. *Orientalia*
Or. Suecana. *Orientalia Suecana*
P.B.S. *University of Pennsylvania. The University Museum. Publications of the Babylonian Section*
P.E.F.Q.S. *Palestine Exploration Fund, Quarterly Statement*
P.E.Q. *Palestine Exploration Quarterly*
P.P.S. *Proceedings of the Prehistoric Society*
Præhist. Zeitschr. *Præhistorische Zeitschrift*
Praktika *Πρακτικά τῆς Ἀρχαιολογικῆς Ἑταιρείας*
Proc. Amer. Philosoph. Soc. *Proceedings of the American Philosophical Society*
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Rev. sci. *Revue scientifique*
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Riv. di Sci. Preist. *Rivista di Scienze Preistoriche*
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Urk. Urkunden des ägyptischen Altertums, ed. G. Steindorff, later H. Grapow
U.V.B. Uruk: vorläufiger Bericht
V.A.S. Vorderasiatische Schriftdenkmäler
We. Or. Die Welt des Orients
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